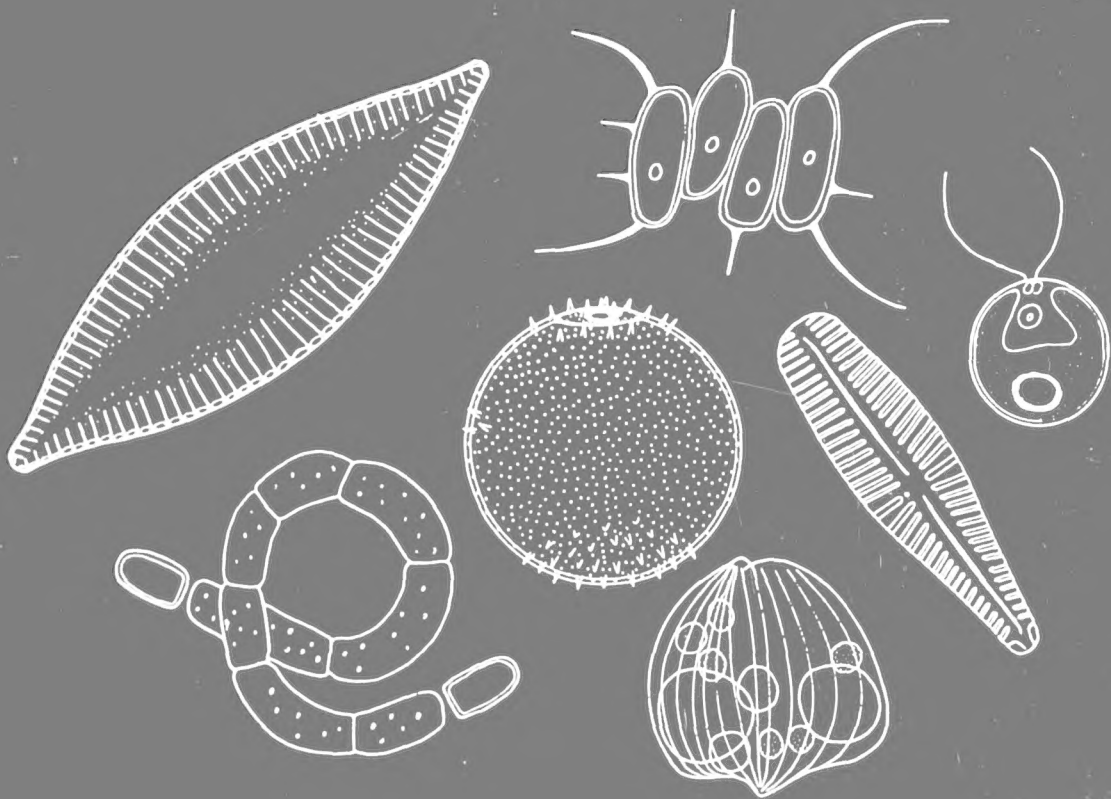


C. Cocquyt  
W. Vyverman  
P. Compère

# A check-list of the algal flora of the East African Great Lakes





C. Cocquyt, W. Vyverman  
& P. Compère

**A check-list of  
the algal flora of the  
East African Great Lakes  
(Malawi, Tanganyika  
and Victoria)**



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## Introduction

The first publications on the algal flora of the East African great lakes date back from the end of last century. In 1880, DICKIE studied a small collection of algae, attached on aquatic phanerogames, from Livingstone's mission on the shores of Lake Nyasa (now also called Lake Malawi). In 1898 SCHMIDLE published on the desmids from East Africa; a year later, the first work on planktonic algae from Lake Malawi was published by the same author (SCHMIDLE 1899). SCHMIDLE continued his research on the algae from Lake Malawi, resulting in more papers at the beginning of this century (1902 a,b). In the early twentieth century, Lake Malawi had attracted the attention of other scientists (ENGLER 1902, MÜLLER 1903, 1904, 1905, 1914). During this period, the first records of algae from Lake Tanganyika, collected during the third Tanganyika expedition, conducted by Dr. Cunningham, were published by WEST (1907). From 1908 till 1933, several scientists were interested in the algal flora of Lake Victoria (BACHMAN 1933, BORGE 1928, OSTENFELD 1908, 1909, SCHRÖDER 1912, VIRIEUX 1913, WOLOSZYNSKA 1914).

After this first period of rather intensive research on the algal communities in the three East African great lakes, no reports on phytoplankton investigation were published during the following two decades. A renewed interest in the taxonomy of the algae can be noticed after the second world war, when new expeditions to the lakes were organised. A survey of the algal flora of the East African Rift area was given by VAN MEEL (1954). Research was done on the algae of the great lakes (EVANS 1962, RICHARDSON 1964, ROSS 1953, 1955, TALLING 1965 a,b). Sediment cores from Lake Tanganyika were studied (KUFFERATH 1956), and reports on blue-green algae for the last mentioned lake were given (SYMOENS 1955 a,b, 1956). Investigations on diatoms were undertaken in Lake Malawi (MONTEIRO 1960, 1963). In Lake Victoria, phytoplankton was examined (TALLING 1966, 1987, THOMASSON 1955), with special attention to desmids (GRÖNBLAD et al. 1964). However most studies were focused on the ecology of phytoplankton communities (e.g. HABERYAN & MHONE 1991, HECKY et al. 1978, 1981, 1987, TALLING 1965 a, b).

The present-day concern about pollution and the conservation of biodiversity, undoubtedly stimulated recent systematic investigations

of the algal flora. During the last years, Lake Tanganyika has attracted most attention (CALJON 1987 a, CALJON & COCQUYT 1992, COCQUYT 1991, KOCIOLEK & STOERMER 1991, 1993), followed by Lake Malawi (KLEE et al. 1990, KLEE & CASPER 1992, VYVERMAN & COCQUYT 1993). However, much less work has been done recently on Lake Victoria. While in the past planktonic communities received most attention, recent studies focused on littoral and benthic communities.

Nomenclatural and taxonomic revisions of the algal flora during the last years, resulted in important changes of the taxa. The revisions were mainly done on temperate algae, and were made possible thanks to the development of new microscopic techniques (e.g. scanning and transmission electron microscopy, interference microscopy, ...). These important changes in the algal taxonomy, and the renewed extensive scientific interest in the three East African great lakes — Lake Malawi, Lake Tanganyika and Lake Victoria — was the main stimulus for the preparation of an up-to-date check-list of the three East African great lakes. However, the amount of research done on the algal flora of Lake Tanganyika, especially of benthic and littoral communities, was greater than for Lake Malawi and Lake Victoria. This resulted in a greater number of taxa reported from Lake Tanganyika (COCQUYT & VYVERMAN 1993 b).

The taxonomical groups, represented by the greatest number of infrageneric taxa, are the Bacillariophyta, followed by the Chlorophyta in Lake Nyasa and Lake Tanganyika. In Lake Victoria the Chlorophyta are most extensively studied, resulting in a greater number of reported infrageneric taxa than in the Bacillariophyta. The present list takes into account the recent evolution in taxonomy and nomenclature. However, revision is needed for many tropical taxa and populations of cosmopolitan species in the tropics. Moreover, it was not possible to check all records, so that it remains possible that literature records of a number of taxa are based on erroneous identifications.

The numbers of infrageneric taxa and genera per major taxonomic group, recorded from Lake Malawi, Lake Tanganyika and Lake Victoria are shown in the following table:

Taxonomic group	Total		L. Malawi		L. Tanganyika		L. Victoria	
Cyanophyta	171	34	40	21	111	28	69	19
Chlorophyta	532	102	161	45	224	78	295	54
Euglenophyta	66	9	10	6	59	8	2	1
Dinophyta	26	6	6	4	19	5	10	4
Xanthophyta	12	5	2	1	4	2	6	3
Chrysophyta	24	17	-	-	21	15	3	3
Cryptophyta	14	5	-	-	14	5	-	-
Prymnesiophyta	1	1	-	-	1	1	-	-
Bacillariophyta	626	49	289	37	474	43	215	33
total	1472	228	508	114	927	185	601	117

In the check-list, the classification of the algae, given by ROUND (1981), is followed at the level of the phyla. For the diatoms the classification of subclasses and orders is after BOURRELLY (1968). Nomenclature follows in most cases KRAMMER & LANGE-BERTALOT (1986, 1988, 1991 a,b). VANLANDINGHAM (1967-1979) and PATRICK & REIMER (1966, 1975) were also consulted. For the genera *Fragilaria* and *Synedra*, where many taxonomical problems remain unsolved, we followed HUSTEDT (1931-1959). For the Cyanophyta, GEITLER (1932) and several smaller publications (e.g. KOMAREK & KLING 1991) were followed; KOMAREK & FOTT (1983) were followed for the Chlorococcales, PRESCOTT et al. (1975, 1977, 1981), RUZICKA (1977, 1981) and CROASDALE et al. (1983) for the Desmidiaceae; HUBER-PESTALOZZI (1955) and STARMACH (1983) for the Euglenophyta; STARMACH (1985) for the Chrysophyta; Ettl (1985) for the Xanthophyta and FOTT (1968) for the Cryptophyta. In many cases other publications were consulted to resolve certain taxonomic and nomenclatural problems.

A list of synonyms used in earlier publications is given after the check-list (p. 35), together with nomenclatural and taxonomic comments on some taxa.





## Check-list

The following abbreviations are used:

N : Lake Nyasa/Lake Malawi

T : Lake Tanganyika

V : Lake Victoria

\* : taxon cited from lake(s) under synonym(s); cf. list of synonyms p. 35

\*\* : cf. nomenclatural or taxonomic comment in list of synonyms

[ ] : used to indicate combinations not available

e.g. *Aulacoseira italica* (Ehr.) Sim. [var. *plicatella* O. Müll.] is *Melosira italica* var. *plicatella* O. Müll.; the combination for the variety under *Aulacoseira* has not been published (see taxonomic comments)

The following abbreviations of authors names are used:

Ag. : C. Agardh

Ahlstr. : Ahlstrom

Allm. : Allman

Arch. : Archer

Bachm. : Bachmann

Beij. : Beijerinck

Belch. : Belcher

Bern. : Bernard

Berk. : Berkeley

Biss. : Bisset

Bodr. : Bodrog

Bohl. : Bohlin

Börg. : Börgesen

Born. : Bornet

Bourr. : Bourrelly

Boye-Pet. : Boye-Petersen

A. Br. : A. Braun

Bréb. : Brébisson

Brunnth. : Brunnthaler

Bruz. : A. Bruzelius

Bulnh. : Bulnheim

Calj. : Caljon

Cart. : Carter

Chod. : Chodat

Choln. : Cholnoky

Cl. : P. Cleve

Conr. : Conrad

Croasd. : Croasdale

Dad. : Daday

Dang. : Dangeard

Defl. : Deflandre

Delp. : Delponte

De Not. : De Notaris

De Saed. : De Saedeleer

De Wild. : De Wildeman

Dillw. : Dillwyn

Drezep. : Drezepolski

Dujard. : Dujardin

Ehr. : Ehrenberg

Elenk. : Elenkin

Elfv. : Elfving

Fl. : Flahault

Gardn. : Gardner

Geor. : Georges

Gom. : Gomont

Grun. : Grunow

Greg. : Gegory

Gerl. : Gerloff

Grev. : Greville

Grönb. : Grönblad

Gutw. : Gutwinski

Hansg. : Hansgirk

Hass. : Hassal

Heib. : Heiberg

Hérib. : Héribaud

Hieron. : Hieronymus

Hind. : Hindak	Pasch. : Pascher
Hollerb. : Hollerbach	Pank. : Pankow
Hortob. : Hortobagyi	Pant. : Pantocsek
Hub.-Pest. : Huber-Pestalozzi	Pen. : Penard
Hust. : Hustedt	Perag. : Peragallo
Istv.-Schaarsch. : Istvanffi-Schaarschmidt	Phil. : Philipose
Itzigs. : Itzigsohn	Playf. : Playfair
Josh. : Joshua	Pochm. : Pochmann
Keissl. : Keissler	Pouz. : Pouzar
Kirchn. : Kirchner	Pringsh. : Pringsheim
Kof. : Kofoed	Rabh. : Rabenhorst
Kom. : Komarek	Racib. : Raciborski
Kom.-Legn. : Komarkova-Legnerova	Richt. : Richter
Kors. : Korshikov	Roxb. : Roxburgh
Kram. : Krammer	Ruttn. : Ruttner
Krieg. : Krieger	Ruzick. : Růžicka
Kütz. : Kützing	Sauvag. : Sauvageau
Lack. : Lackey	Scherff. : Scherffel
Lagerh. : Lagerheim	Schill. : Schiller
Lauterb. : Lauterborn	Schröd. : Schröder
Lef. : Lefèvre	Schröt. : Schröter
Lenorm. : Lenormand	Sim. : Simonsen
Lgst. : Lagerstedt	Spreng. : Sprengel
L.-B. : Lange-Bertalot	Sull. : Sullivan
Lemm. : Lemmermann	Swir. : Swirenko
Lill. : Lillieroth	W.R. Tayl. : W.R. Taylor
Lind. : Lindemann	Teil. : Teiling
L. : Linnaeus	Thom. : Thomasson
Lund. : Lundell	Thunm. : Thunmark
Lütkem. : Lütkemüller	Thur. : Thuret
Lyngb. : Lyngbye	Tiff. : Tiffany
Marss. : Marsson	Tranc. : Trancanna
Menegh. : Meneghini	Turn. : Turner
Mert. : Mertens	Turp. : Turpin
Miq. : F.A.G. Miquel	Uterm. : Utermöhl
Mill. : Miller	Vauch. : Vaucher
Moeb. : Moebius	V.H. : Van Heurck
Mont. : Montagne	Vir. : Virieux
Morr. : Morren	Visch. : Vischer
O. Müll. : O. Müller	West & West : W. West & G.S. West
O.F. Müll. : O.F. Müller	Willd. : Willdenow
Näg. : Nägeli	Wittr. : Wittrock
Naum. : Naumann	Wolosz. : Woloszynska
Nordst. : Nordstedt	R.D.W. : R.D. Wood
Nyg. : Nygaard	Zach. : Zacharias
Ostenf. : Ostfeld	

## CYANOPHYTA

N T V

**Anabaena** Bory ex Born. & Fl.

<i>A. circinalis</i> Rabh. ex Born. & Fl.	-	x	x
<i>A. discoidea</i> (Schmidle) Ostenf.	-	-	x
<i>A. flos-aquae</i> Bréb. ex Born. & Fl.			
var. <i>flos-aquae</i>	x	x	x
f. <i>aptekariana</i> Elenk.	-	x	-
f. <i>spiroides</i> Voronik.	-	-	x
<i>A. fuellebornii</i> Schmidle	-	x	-
<i>A. hyalina</i> Schmidle	x	-	-
<i>A. inaequalis</i> Born. & Fl.	x	-	-
<i>A. sphaerica</i> Born. & Fl.	x	-	-
<i>A. spiroides</i> Klebahn	-	-	x
var. <i>minima</i> Nyg.	-	-	x
<i>A. variabilis</i> Kütz. ex Born. & Fl.	-	x	-
<i>A. westii</i> Vir.	-	-	x
<i>Anabaena</i> sp.	-	x	-

**Anabaenopsis** Mill.

<i>A. circularis</i> (G.S. West) Mill.*	-	x	x
<i>A. cunningtonii</i> W.R. Tayl.	-	x	-
<i>A. tanganyikae</i> (G.S. West) Mill.	-	x	x
<i>Anabaenopsis</i> sp.	-	x	-

**Aphanocapsa** Näg.

<i>A. delicatissima</i> West & West	-	x	x
<i>A. elachista</i> West & West			
var. <i>conferta</i> West & West	-	x	-
var. <i>elachista</i>	-	x	x
f. <i>planctonica</i> G.M. Smith	-	x	-
<i>A. hyalina</i> (Lyngh.) Hansg.	x	-	-
<i>A. nubilum</i> Kom. & Kling	-	-	x
<i>A. pulchra</i> (Kütz.) Rabh.	-	x	-
<i>Aphanocapsa</i> sp.	-	x	-

**Aphanothece** Näg.

<i>A. clathrata</i> West & West			
var. <i>brevis</i> Bachm.	-	x	-
var. <i>clathrata</i>	-	x	x
<i>A. elabens</i> (Bréb.) Elenk.*	x	x	x
<i>A. microscopica</i> Näg.	x	x	-
<i>A. nidulans</i> Richt.	-	x	
<i>A. pulverulenta</i> Bachm.	-	-	x
<i>A. stagnina</i> (Spreng.) A. Br.	-	-	x
<i>Aphanothece</i> sp.	-	x	-

**Calothrix** Ag. ex Born. & Fl.

<i>C. braunii</i> Born. & Fl.	x	x	x
<i>C. brevissima</i> G.S. West	-	x	x
<i>C. epiphytica</i> West & West	x	x	-
<i>C. fuellebornii</i> Schmidle	x	-	-
<i>C. parietina</i> Thur. ex Born. & Fl.	-	-	x

**Chamaesiphon** Braun

<i>C. incrustans</i> Grun.	x	x	x
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**Chroococcus** Näg.

<i>C. confervicola</i> A.Br.	-	x	x
<i>C. helveticus</i> Näg.	-	x	-
<i>C. limneticus</i> Lemm.*	-	x	x
<i>C. minimus</i> (Keissl.) Lemm.	x	-	-
<i>C. minor</i> (Kütz.) Näg.			
f. <i>dispersus</i> Keissl.*	-	x	x
<i>C. minutus</i> (Kütz.) Näg.*	-	x	-
<i>C. pallidus</i> Näg.	-	-	x
<i>C. parallelipipedon</i> Schmidle	x	-	x
<i>C. turgidus</i> (Kütz.) Näg.*	x	x	x
<i>Chroococcus</i> sp.	x	-	-

**Coelosphaerium** Näg.

<i>C. kuetszingianum</i> Näg.	-	-	x
<i>C. minutissimum</i> Lemm.	-	-	x

**Cylindrospermopsis** Seenayya  
et Subba

<i>C. africana</i> Kom. & Kling	-	-	x
<i>C. cuspidata</i> Kom. & King	-	-	x

**Cylindrospermum** Kütz. ex  
Born. & Fl.

<i>C. goetzei</i> Schmidle	-	x	-
<i>C. nyassae</i> Dickie	x	-	-

**Gloeothrichia** Ag. ex  
Born. & Fl.

<i>G. echinulata</i> (J.E. Smith) Richt.	-	x	-
<i>G. longiarticulata</i> G.S. West	x	-	-
<i>G. natans</i> Rabh. ex Born. & Fl.	-	x	-

**Gomphosphaeria** Kütz.

<i>G. aponina</i> Kütz.	-	x	x
var. <i>multiplex</i> Nyg.	-	-	x
<i>G. lacustris</i> Chod.	x	-	x

<i>G. pusilla</i> (Van Goor) Kom. & Ettl	- x -	<i>M. flos-aquae</i> (Wittr.) Kirchn.*	- x x
<b>Homoeothrix</b> (Thur.) Kirchn.		<i>M. marginata</i> (Menegh.) Kütz.	- - x
<i>H. cartilaginea</i> (G.S. West) Lemm.*	- x -	<i>M. ochracea</i> (Brand.) Lemm.	- - x
<i>H. juliana</i> (Born. & Fl.) Kirchn.*	x - -	<i>M. prasina</i> (Wittr.) Lemm.	x - -
<b>Lyngbya</b> Ag. ex Gom.		<i>M. pulverea</i> (Wood ex Hansg.)	
<i>L. aerugineo-coerulea</i> Gom.	- x -	Forti	
<i>L. aestuarii</i> Liebm. ex Gom.	- - x	var. <i>incerta</i> (Lemm.) Crow*	- x x
<i>L. bipunctata</i> Lemm.	x x -	f. <i>pulchra</i> (Lemm.) Elenk.*	- x -
<i>L. circumcreta</i> G.S. West	- - x	var. <i>pulverea</i>	- x -
<i>L. digueti</i> Gom.	- x -	<i>M. robusta</i> (Clark) Nyg.	- - x
<i>L. epiphytica</i> Hieron.	- - x	<i>M. scripta</i> (Richt.) Migula	- - x
<i>L. kuetzingii</i> Schmidle		<i>M. viridis</i> (A. Br.) Lemm.	x - x
var. <i>distincta</i> (Nordst.) Lemm.	- - x	<i>M. wesenbergii</i> Kom.	- - x
var. <i>kuetzingii</i>	- - x	<b>Nodularia</b> Mert. ex Born. & Fl.	
<i>L. lagerheimii</i> Gom.	- - x	<i>N. harveyana</i> Thur. ex Born. & Fl.*	
<i>L. limnetica</i> Lemm.	- x x	var. <i>harveyana</i>	- x -
<i>L. martensiana</i> Menegh. ex Gom.	x x -	var. <i>sphaerocarpa</i> (Born. & Fl.)	
<i>L. nyassae</i> Schmidle	x - x	Elenk.	- x -
<i>L. perelegans</i> Lemm.	- x -	<i>N. tenuis</i> G.S. West	- x -
<i>L. purpurea</i> Gom.	- x -	<b>Nostoc</b> Vauch. ex Born. & Fl.	
<i>L. putealis</i> Mont. ex Gom.	- x -	<i>N. carneum</i> Ag. ex Born. & Fl.	- x -
<i>L. versicolor</i> Gom.	x x x	<i>N. paludosum</i> Kütz. ex Born. & Fl.	x - -
<b>Merismopedia</b> Meyen		<i>N. piscinale</i> Kütz. ex Born. & Fl.	- x -
<i>M. aeruginea</i> Bréb.	- x -	<b>Nostochopsis</b> Wood	
<i>M. elegans</i> A. Br. ex Kütz.		ex Born. & Fl.	
var. <i>elegans</i>	x x x	<i>N. goetzei</i> Schmidle	x - -
var. <i>remota</i> G.S. West	- x -	<b>Oscillatoria</b> Vauch. ex Gom.	
<i>M. glauca</i> (Ehr.) Näg.	x x x	<i>O. agardhii</i> Gom.	- x -
<i>M. minima</i> G. Beck	- x -	<i>O. amphibia</i> Ag. ex Gom.	- - x
<i>M. punctata</i> Meyen	x x x	<i>O. cortiana</i> Menegh. ex Gom.	- x -
<i>M. tenuissima</i> Lemm.	- x x	<i>O. curviceps</i> Ag. ex Gom.	- x -
<b>Microchaete</b> Thur. ex		<i>O. formosa</i> Borge ex Gom.	- x -
Born. & Fl.		<i>O. geminata</i> Menegh. ex Gom.	x x -
<i>M. investiens</i> Fremy	- x -	<i>O. granulata</i> Gardn.	- x -
<b>Microcoleus</b> Desmazières		<i>O. limnetica</i> Lemm.	- x -
ex Gom.		<i>O. limosa</i> Gom.	- x -
<i>M. vaginatus</i> (Vauch.) Gom.		<i>O. obtusa</i> Gardn.	- x -
var. <i>monticola</i> (Kütz.) Gom.	x - -	<i>O. princeps</i> Vauch. ex Gom.	- x -
<b>Microcystis</b> Kütz.		<i>O. proteus</i> Skuja	- x -
<i>M. aeruginosa</i> (Kütz.) Kütz.*	x x x	<i>O. pseudogeminata</i> G. Schmid	- x -
<i>M. densa</i> West & West	- x -	<i>O. quadripunctulata</i> Bruhl & Biswas	
<i>M. firma</i> (Kütz.) Schmidle	x - -	var. <i>unigranulata</i> Singh	- x -
		<i>O. sancta</i> Gom.	x - -
		<i>O. schultzei</i> Lemm.	- x -

*O. splendida* Grev. ex Gom.

var. *attenuata* West x -

*O. subbrevis* Schmidle - x

*O. tanganyikae* G.S. West - x -

*O. tenuis* Ag. ex Gom. - x x

var. *natans* (Kütz.) Gom. x -

*O. terebriformis* Ag. ex Gom. - x -

*O. willei* Gardn. - x -

### **Phormidium** Kütz. ex Gom.

*P. ambiguum* Gom. - x -

*P. angustissimum* West & West - x x

*P. autumnale* Gom. - x x

*P. corium* Kütz. ex Gom. - x -

*P. foveolarum* Gom. x -

*P. inundatum* Kütz. ex Gom. x - -

*P. lucidum* Kütz. ex Gom. - - x

*P. mucicola* Naum. & Hub.-Pest. - - x

*P. papyraceum* Gom. - x -

*P. tenue* Gom. - x -

### **Planktolyngbya** Anagnostidis & Kom.

*P. tallingii* Kom. & Kling - - x

*P. undulata* Kom. & Kling - - x

### **Plectonema** Thur. ex Frank

*P. mirabile* Thur. ex Frank\* - x -

*P. wollei* Farlow ex Gom. - x -

### **Pseudanabaena** Lauterb.

*P. catenata* Lauterb. - x -

*P. linnetica* (Lemm.) Kom. - x -

*P. moniliformis* Kom. & Kling - - x

*Pseudoanabaena* sp.1\* - - x

*Pseudoanabaena* sp.2\* - - x

### **Rhabdoderma** Schmidle et Lauterb.

*R. sigmoidea* More & Cart. - - x

*R. tenuissimum* Kom. & Kling - - x

### **Rivularia** Ag. ex Born. & Fl.

*R. aquatica* De Wild. - x -

*R. dura* Roth x -

*R. globiceps* G.S. West - x -

### **Schizothrix** Kütz. ex Gom.

*S. lacustris* A. Br. ex Gom. - x -

### **Seytonema** Ag. ex Born. & Fl.

*S. cinnatum* Thur. ex Born.  
& Fl.\* x x -

*S. figuratum* Ag. ex Born. & Fl.\* - x -

### **Spirulina** Turp. ex Gom.

*S. jenneri* Kütz. ex Gom. - x -

*S. laxissima* G.S. West - x x

*S. major* Kütz. ex Gom. - x -

*S. princeps* West & West x - -

*S. subsalsa* Oersted ex Gom. \*

var. *crassior* (Vir.) Geitler - x -

var. *subsalsa* x - -

*S. subtilissima* Kütz. ex Gom. - x -

### **Synechococcus** Näg.

*S. leopoliensis* (Racib.) Kom.\* - x -

### **Synechocystis** Sauvag.

*S. aquatilis* Sauvag. - x -

### **Tolypothrix** Kütz. ex Born. & Fl.

*T. tenuis* Kütz. emend. Schmidt - x -

## **CRYPTOPHYTA**

### **Chroomonas** Hansg.

*C. angusta* Calj. - x -

*C. nordstedtii* Hansg. - x -

### **Cryptomonas** Ehr.

*C. erosa* Ehr. - x -

var. *erosa* - x -

var. *reflexa* Marss. - x -

*C. cf. obovata* Skuja - x -

*C. ovata* Ehr. x -

var. *ovata* - x -

var. *curvata* Lemm. - x -

### **Cryptaulax** Skuja

*C. conoidea* Skuja - x -

*Cryptaulax* sp. - x -

**Kathablepharis** Skuja

K. ovalis Skuja - x -

**Rhodomonas** Karsten

R. lacustris Pasch. &amp; Ruttn. - x -

R. lens Pasch. &amp; Ruttn. - x -

R. minuta Skuja - x -  
var. minuta - x -

var. nannoplanktonica Skuja - x -

**CHLOROPHYTA****VOLVOCALES****Carteria** Diesing

C. multifilis Dill - - x

**Chlamydomonas** Agassiz

C. globosa Snow - x -

C. metapyrenigera Skuja - x -

C. orbicularis Pringsh. - x -

C. pertusa Chod. - x -

Chlamydomonas sp. - x -

**Chloromonas** Gobi

C. tapeta (Skuja) Gerl. &amp; Ettl - x -

**Collodictyon** Cart.

C. triciliatum Cart. - x -

**Eudorina** Ehr.

E. elegans Ehr. x - x

**Gonium** O.F. Müller

G. pectorale O.F. Müll. - x -

**Nephroselmis** Stein

N. olivacea Stein - x -

**Pandorina** Bory

P. morum (O.F. Müll.) Bory x x x

**Phacotus** Perty

P. lenticularis (Stein) Ehr. - x -

**Scourfieldia** West

S. chlorolateralis Calj. - x -

S. cordiformis Takeda - x -

**Spermatozopsis** Kors.

S. exultans Kors. - x -

**Volvox** L.

V. aureus Ehr. x - -

V. globator L. x - -

**TETRASPORALES****Gloeochaete** Lagerh.

G. wittrockiana Lagerh. x - x

**Gloeocystis** Näg.

G. gigas (Kütz.) Lagerh. - - x

G. ikapoeae Schmidle - - x

**Sphinctosiphon** G.S. West

S. polymorphus G.S. West - - x

**CHLOROCOCCALES****Actinastrum** Lagerh.A. raphidioides (Reinsch)  
Brunnth.\* - x -**Ankistrodesmus** Corda

A. bibraianus (Reinsch) Kors.\* - - x

A. falcatus (Corda) Ralfs\*

var. duplex (Kütz.) G.S. West - - x

var. falcatus x x x

var. mirabilis West &amp; West\*\* - - x

var. radiatus (Chod.) Lemm.\* - - x

A. gracilis (Reinsch) Kors.\* - x x

A. spiralis (Turn.) Lemm.\* - - x

**Ankyra** Fott

A. judayi (Smith) Fott - x -

**Botryococcus** Kütz.

B. braunii Kütz.\* x x x

**Characium** Braun

<i>C. cerasiforme</i> Eichler & Racib.	x	-	-
<i>C. longipes</i> Rabh.	-	-	x
<i>C. ornithocephalum</i> A. Br.			
var. <i>pringsheimii</i> (A. Br.) Kom.*	-	-	x
<i>C. pseudopyriforme</i> Phil.*	x	-	-
<i>C. subulatum</i> A. Br.	x	-	-

**Chlorella** Beij.

<i>C. minutissima</i> Fott & Novak.	-	x	-
<i>C. vulgaris</i> Beij.	-	x	-
<i>Chlorella</i> sp.	-	x	-

**Chlorolobion** Kors.

<i>C. braunii</i> (Näg.) Kom.*	-	-	x
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**Closteriopsis** Lemm.

<i>C. acicularis</i> (G.M. Smith) Belch. & Swale	-	x	-
<i>C. longissima</i> (Lemm.) Lemm.*	x	-	x

**Coccomyxa** Schmidle

<i>Coccomyxa</i> sp.	-	x	-
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**Coelastrum** Näg.

<i>C. cambricum</i> Arch.			
var. <i>cambricum</i>	x	x	x
var. <i>intermedium</i> (Bohl.) G.S. West	x	-	x
var. <i>rugosum</i> Rich	-	-	x
var. <i>stuhlmanii</i> (Schmidle) Ostenf.	-	-	x
<i>C. compositum</i> G.S. West	-	-	x
<i>C. cruciatum</i> Schmidle	-	x	-
<i>C. indicum</i> Turn.*	-	-	x
<i>C. microporum</i> Näg.	x	x	x
<i>C. morus</i> West & West	-	-	x
<i>C. proboscideum</i> Bohl. in Wittr. & Nordst.	-	-	x
var. <i>rugulosum</i> Kom.	-	-	x
<i>C. pulchrum</i> Schmidle			
var. <i>pulchrum</i>	-	-	x
var. <i>nasutum</i> Schmidle**	-	-	x
<i>C. reticulatum</i> (Dang.) Senn	x	x	x
<i>C. sphaericum</i> Näg.*	x	-	x
<i>C. stuhlmanii</i> Schmidle	-		x

**Coenocystis** Kors.

<i>C. subcylindrica</i> Kors.	-	x	-
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**Crucigenia** Morr.

<i>C. quadrata</i> Morr.	-	x	-
<i>C. tetrapedia</i> (Kirchn.) West & West	-	x	-
<i>Crucigenia</i> sp.	-	x	-

**Crucigeniella** Gaillon

<i>C. africana</i> (Wolosz.) Fott*	-	-	x
<i>C. apiculata</i> (Lemm.) Kom.*	-	x	-
<i>C. rectangularis</i> (Näg.) Kom.*	x	-	-

**Desmatractum** West & West

<i>D. nyanzae</i> (Wolosz.) G.S. West**	-	-	x
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**Dictyochlorella** Silva

<i>D. globosa</i> Silva	-	x	-
<i>D. reniformis</i> (Kors.) Silva	-	x	-

**Dictyosphaerium** Näg.

<i>D. ehrenbergianum</i> Näg.	-	x	x
<i>D. elongatum</i> Hind.	-	x	-
<i>D. pulchellum</i> Wood			
var. <i>pulchellum</i>	x	x	x
var. <i>minimum</i> Bachm.	-	-	x
<i>D. subsolitarum</i> Van Goor*	-	x	x
<i>D. tetrachotomum</i> Printz.	-	x	-

**Dimorphococcus** Braun

<i>D. lunatus</i> A. Br.*	x	x	x
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**Dispora** Printz

<i>D. cuneiformis</i> (Schmidle) Printz*	x	-	-
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**Eutetramorus** Walton

<i>E. fottii</i> (Hind.) Kom.	-	x	-
<i>E. planctonicus</i> (Kors.) Bourr.	-	x	-

**Franceia** Lemm.

<i>F. armata</i> (Lemm.) Kors.*	-	-	x
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**Glaucocystis** Itzigs.

<i>G. nostochinearum</i> Itzigs.			
var. <i>nostochinearum</i>	x	-	-
var. <i>immanis</i> Schmidle	x	-	-

**Kirchhieniella** Schmidle

<i>K. contorta</i> (Schmidle) Bohl.	-	-	x
<i>K. irregularis</i> (G.M. Smith) Kors.	-	x	-

<i>K. lunaris</i> (Kirchn.) Moeb.	x - x	<i>O. lacustris</i> Chod.	x x x
<i>K. lunata</i> Schmidle**	x - -	<i>O. naegeli</i> A. Br.	x - -
<i>K. obesa</i> (W. West) Schmidle	x x x	<i>O. novae-semiliae</i> Wille	x - -
var. <i>aperta</i> (Teil.) Brunth	- - x	<i>O. parva</i> West & West	x x -
<b>Komarekia</b> Fott		<i>O. pusilla</i> Hansg.	- x x
[ <i>K. africana</i> (Wolosz.)]**	- - x	<i>O. solitaria</i> Wittr.	x - x
<i>K. appendiculata</i> (Chod.) Fott	- x -	<b>Pachycladella</b> Silva	
<b>Lagerheimia</b> (De Toni) Chod.		<i>Pachycladella</i> sp.	- x -
<i>L. cingula</i> G.M. Smith*	- x -	<b>Palmophyllum</b> Kütz.	
<i>L. citriformis</i> (Snow) Collins	- - x	<i>P. foliaceum</i> G.S. West	- x -
<i>L. genevensis</i> (Chod.) Chod.*	x x -	<b>Pediastrum</b> Meyen	
<i>L. longiseta</i> (Lemm.) Wille*	- x x	<i>P. angulosum</i> Ehr. ex Menegh.*	- - x
<i>L. quadriseta</i> (Lemm.) G.M. Smith	- x -	<i>P. argentiniense</i> Bourr. & Tell*	- - x
<i>L. subsalsa</i> Lemm.**		<i>P. boryanum</i> (Turp.) Menegh.*	
[var. <i>citriformis</i> (Wolosz.)]**	- - x	var. <i>boryanum</i>	x x x
var. <i>subsalsa</i>	- x x	var. <i>brevicorne</i> A. Br.*	x - x
<b>Lobocystis</b> Thompson		var. <i>longicorne</i> Reinsch*	- - x
<i>L. dichotoma</i> Thompson		<i>P. coelastroides</i> Wolosz.	- - x
var. <i>mucosa</i> Bourr.	- x -	<i>P. duplex</i> Meyen	
<i>L. planctonica</i> (Tiff. & Ahlstr.) Fott	- x -	var. <i>asperum</i> (A. Br.) Hansg.	- - x
<b>Micractinium</b> Fresenius		var. <i>cohaerens</i> Bohl.*	- - x
<i>M. quadrisetum</i> (Lemm.)		var. <i>duplex</i> *	x x x
G.M. Smith*	- x -	<i>P. integrum</i> Näg.	- x -
<b>Monoraphidium</b> Kom.-Legn.		<i>P. simplex</i> Meyen*	
<i>M. circinale</i> (Nyg.) Nyg.	- x -	var. <i>simplex</i> *	x x x
<i>M. contortum</i> (Thur.) Kom.-Legn.*	- x x	var. <i>annulatum</i> Chod.**	- - x
<i>M. convolutum</i> (Corda) Kom.-Legn.	- x -	var. <i>clathratum</i> (Schröt.) Chod.*	x - x
<i>M. griffithii</i> (Berk.) Kom.-Legn.*	x x -	var. <i>duodenarium</i> (Bail.) Rabh.**	- - x
<i>M. komarkovae</i> Nyg.*	- x -	[var. <i>mirabile</i> (Wolosz.)]**	- - x
<i>M. minutum</i> (Nyg.) Kom.-Legn.	- x -	var. <i>radians</i> Lemm.**	- - x
<i>M. mirabile</i> (West & West) Pank.	- x -	f. <i>contortum</i> Wolosz.**	- - x
<i>M. pusillum</i> (Printz) Kom.-Legn.	- x -	var. <i>sturmii</i> (Reinsch) Wolle*	x - x
<i>Monoraphidium</i> sp.	- x -	<i>P. sorastroides</i> Wolosz.	- - x
<b>Nephrocystium</b> Näg.		<i>P. tetras</i> (Ehr.) Ralfs	
<i>N. agardhianum</i> Näg.	x x -	var. <i>tetras</i>	x x x
<i>N. limneticum</i> (Smith) Smith	- x -	var. <i>longicorne</i> Racib.	x - -
<i>N. lunatum</i> W. West	- x -	var. <i>perforatum</i> Wolosz.**	- - x
<i>N. rehmanii</i> (Wolosz.) Fott*	- x x	<i>P. westii</i> Wolosz.**	- - x
<b>Oocystis</b> Näg. ex Braun		<b>Planktosphaeria</b> G.M. Smith	
<i>O. borgei</i> Snow	- - x	<i>P. gelatinosa</i> G.M. Smith	- x -
<i>O. elliptica</i> W. West	- x -	<b>Quadricoccus</b> Fott	
		<i>Q. ellipticus</i> Hortob.	- x -



**Quadrigula** Printz

Q. lacustris (Chod.) G.M. Smith\* - - x

**Rayssiella** Edelstein et Prescott

R. curvata (Bohl.) Kom.\* x x x

**Scenedesmus** Meyen

S. aculeolatus Reinsch\* x x -

S. acuminatus (Lagerh.) Chod.\* - - x

S. acutiformis Schröd.  
var. acutiformis x - -

S. acuminatus (Lagerh.) Chod.\* - - x

S. acutus Meyen - x -

S. alternans Reinsch\* x - x

S. arcuatus (Lemm.) Lemm.  
var. arcuatus - x x

var. platydiscus Smith\* - x -

S. armatus (Chod.) Chod. - - x

S. brasiliensis Bohl.\* x x -

S. caudato-aculeolatus Chod. - x -

S. denticulatus Lagerh. - x x

S. dimorphus (Turp.) Kütz. - x -

S. disciformis (Chod.) Fott. &  
Kom.\* x - -

S. dispar Bréb. - x -

S. ecomis (Ehr. ex Ralfs) Chod. - x -

S. ellipticus Corda - x -

S. gutwinskii Chod.  
var. heterospina Bodr. - x -

S. heteracanthus Gonz. Guerr. - x -

S. hystrix Lagerh. - - x

S. incrassatulus Bohl. - - x

S. intermedius Chod.  
var. intermedius - x -

var. acaudatus Hortob. - x -

var. balatonicus Hortob. - x -

S. longispina Chod. - - x

S. magnus Meyen\*  
var. magnus - x x

[var. arcuatus (Vir.)]\*\* - - x

S. obliquus (Turp.) Kütz.\* x x x

S. obtusus Meyen\* - x x

S. opoliensis Richt.\*  
var. mononensis Chod. x x x

var. opoliensis - x -

S. perforatus Lemm.\* - - x

S. protuberans Fritsch &amp; Rich - - x

S. quadricauda (Turp.) Bréb.

sensu Chod.\*\* x x x

S. quadrispina Chod. - x -

S. raciborskii Wolosz. - - x

S. semipulcher Hortob. - x -

S. woloszynskae Chod.\* - - x

**Schmidleia** Wolosz.

S. elegans Wolosz.

var. elegans - - x

var. simplex Wolosz. - - x

**Schroederia** Lemm.

S. nitzschoides (West) Kors.\* - x -

S. setigera (Schröd.) Lemm.\* - x x

**Schroederiella** Wolosz.

S. africana Wolosz. - - x

**Siderocelis** (Naum.) Fott

S. kolkwitzii (Naum.) Fott - x -

**Sorastrum** Kütz.

S. americanum (Bohl.) Schmidle - - x

S. hathoris (Cohn) Schmidle\* x - x

S. spinulosum Näg.  
var. spinulosum - x -**Sphaerocystis** Chod.

S. schroeteri Chod.\*\* - x x

**Tetradesmus** G.M. SmithT. wisconsinensis G.M. Smith  
f. ostenfeldii (Wolosz.)  
Fott & Kom.\* - - x**Tetraedron** Kütz.\*\*T. arthrodesmiforme (G.S. West)  
Wolosz.

var. arthrodesmiforme - - x

var. contortum Wolosz. - - x

var. elongatum Wolosz. - - x

var. irregulare Wolosz. - - x

var. lobulatum Wolosz. - - x

f. pentagonum Schröd. - - x

f. trigonum Schröd. - - x

T. armatum (Reinsch) De Toni - x -

T. bifurcatum (Wille) Lagerh. - x x

<i>T. caudatum</i> (Corda) Hansg.	-	x	-
<i>T. incus</i> (Teil.) G.M. Smith*	-	x	-
<i>T. inflatum</i> Wolosz.	-	-	x
<i>T. minimum</i> (A. Br.) Hansg.			
var. <i>minimum</i> *	x	x	x
f. <i>apiculatum</i> Reinsch	-	x	-
<i>T. paradoxum</i> Wolosz.	-	-	x
<i>T. pentaedricum</i> West & West	-	-	x
<i>T. regulare</i> Kütz.*	x	-	x
<i>T. raphidioides</i> (Reinsch) Hansg.	-	x	-
<i>T. tetragonum</i> (Näg.) Hansg.	-	-	x
<i>T. trigonum</i> (Näg.) Hansg.			
sensu Skuja			
var. <i>trigonum</i> *	-	-	x
f. <i>crassum</i> Reinsch	-	-	x
var. <i>gracile</i> (Reinsch) De Toni	-	x	-
var. <i>papilliferum</i> (Schröd.) Lemm.	-	-	x
var. <i>punctatum</i> Kirchn.	-	-	x
var. <i>tetragonum</i> Wolosz.	-	-	x
<i>T. victoriae</i> Wolosz.	-	-	x
<i>Tetraedron</i> sp.	x	x	x

**Tetrastrum** Chod.

<i>T. glabrum</i> (Roll) Ahlstr. & Tiff.	-	x	-
<i>T. heteracanthum</i> (Nordst.) Chod.*	-	-	x
<i>T. staurogeniaeforme</i> (Schröd.)			
Lemm.*	-	x	-

**Treubaria** Bern.

<i>T. setigera</i> (Arch.) G.M. Smith	-	x	-
<i>T. triappendiculata</i> Bern.	-	x	-

**Trochiscia** Kütz.

<i>T. aciculifera</i> (Lagerh.) Hansg.	x	-	-
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**Westella** De Wild.

<i>W. botryoides</i> (W. West) De Wild.*	-	x	-
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**Willea** Schmidle

<i>W. irregularis</i> (Wille) Schmidle*	-	x	-
<i>W. wilhelmii</i> (Fott) Kom.	-	x	-

**ULOTRICHALES****Elakotothrix** Wille

<i>E. gelatinosa</i> Wille*	-	-	x
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**Klebsormidium** Silva

<i>K. subtile</i> (Kütz.) Tranc. ex Tell*	-	-	x
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**Koliella** Hind.

<i>K. setiformis</i> (Nyg.) Nyg.*	-	-	x
<i>K. spiculiformis</i> (Visch.) Hind.	-	x	-

**Planctonema** Schmidle

<i>P. lauterbornii</i> Schmidle	-	x	-
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**Stichococcus** Näg.

<i>S. cf. minutissimus</i> Skuja	-	x	-
<i>Stichococcus</i> sp.	-	x	-

**Ulothrix** Kütz.

<i>U. tenerrima</i> (Kütz.) Kütz.	-	x	-
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**Uronema** Lagerh.

<i>U. confervicola</i> Lagerh.	-	x	x
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**CHAETOPHORALES****Chaetophora** Schrank

<i>C. elegans</i> (Roth) Ag.	-	x	-
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**CLADOPHORALES****Cladophora** Kütz.

<i>C. brachystelecha</i> Rabh.	-	x	-
<i>C. canalicularis</i> (Roth) Kütz.	x	x	-
<i>C. crispata</i> (Roth) Kütz.	x	x	x
<i>C. fracta</i> (Kütz.) Brand	x	x	-
<i>C. inconspicua</i> G.S. West	-	x	-

**OEDOGONIALES****Bulbochaete** Ag. ex Him

<i>B. elatior</i> Pringsh. ex Him	x	x	-
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**Oedogonium** Link ex Him

<i>O. cryptoporum</i> Wittr. ex Him	x	-	-
<i>O. dictyosporum</i> Wittr. ex Him	-	x	-
<i>O. himii</i> Gutw. ex Him	-	x	-

<i>O. kitutae</i> G.S. West	- x -
<i>O. kurzii</i> Zeller & Him	x - -
<i>O. patulum</i> Tiff.*	- x -
<i>Oedogonium</i> sp.	- x -

## DESMIDIALES

### **Actinotaenium** (Näg.) Teil.

<i>A. australe</i> (Racib.) Croasd.*	- - x
<i>A. diplosporium</i> (Lund.) Teil.	
f. <i>maius</i> (W. West) Teil.	- - x
<i>A. globosum</i> (Bulnh.) Förster*	
var. <i>globosum</i>	- x x
var. <i>minus</i> (Boldt)	- - x
<i>A. lagenarioides</i> (Roy) Teil.	- x -
<i>A. sidneyense</i> (Racib.) Teil.	- x -
<i>A. wollei</i> (West & West)	
Teil. ex Ruzick. & Pouz.*	- x x

### **Closterium** Nitzsch ex Ralfs

<i>C. abruptum</i> W. West	
f. <i>angustissimum</i> Schmidle	x - x
<i>C. acerosum</i> (Schränk) Ehr. ex Ralfs	x x x
<i>C. aciculare</i> T. West	
var. <i>aciculare</i>	x - x
var. <i>subprorum</i> West & West	- - x
<i>C. acutum</i> (Lyng.) Bréb. ex Ralfs	
var. <i>acutum</i>	x x -
var. <i>tenuius</i> Nordst.	- x -
<i>C. diana</i> Ehr. ex Ralfs	x - -
<i>C. gracile</i> Bréb.	
var. <i>gracile</i>	- x x
var. <i>tenuis</i> (Lemm.) West & West	- - x
<i>C. jenneri</i> Ralfs*	x - x
<i>C. kuetsingii</i> Bréb.	
var. <i>kuetsingii</i>	x - x
var. <i>capense</i> Nordst.	x - -
var. <i>laeve</i> (Racib.) Krieg.*	- - x
<i>C. lagoense</i> Nordst.	- x -
<i>C. lanceolatum</i> Kütz. ex Ralfs	
var. <i>lanceolatum</i>	- - x
var. <i>parvum</i> West & West	- - x
<i>C. leibleinii</i> Kütz. ex Ralfs	x x x
<i>C. limneticum</i> Lemm.	- x -
<i>C. lineatum</i> Ralfs	x - -

### *C. moniliferum* (Bory) Ehr. ex Ralfs

var. <i>moniliferum</i> *	x - x
f. <i>brevius</i> Schröd.	- - x
<i>C. navicula</i> (Bréb.) Lütke.*	- - x
<i>C. nematodes</i> Josh.	
var. <i>tumidum</i> G.S. West	- - x
<i>C. parvulum</i> Näg.	x - -
<i>C. praelongum</i> Bréb.	
var. <i>crassius</i> Schmidle**	x - -
<i>C. ralfsii</i> Bréb. ex Ralfs	
var. <i>hybridum</i> Rabh.	- - x
var. <i>ralfsii</i>	- - x
<i>C. strigosum</i> Bréb.	- x -
<i>C. striolatum</i> Ehr. ex Ralfs	x - -
<i>C. tumidum</i> Johnson	- - x
<i>C. venus</i> Kütz. ex Ralfs	x x x

### **Cosmarium** Corda ex Ralfs

<i>C. abruptum</i> Lund.	
var. <i>granulatum</i> West & West	- - x
<i>C. angulosum</i> Bréb.	
var. <i>angulosum</i>	x x x
var. <i>concinnum</i> (Rabh.) West & West	- x x
<i>C. binum</i> Nordst.	x x x
<i>C. bioculatum</i> Bréb. ex Ralfs	x - x
<i>C. blyttii</i> Wille	x x x
<i>C. capense</i> (Nordst.) De Toni	x - -
<i>C. connatum</i> (Bréb.) Ralfs	x - x
<i>C. contractum</i> Kirchn.*	
var. <i>contractum</i>	- - x
var. <i>ellipsoideum</i> (Elfv.) West & West	- - x
<i>C. creperum</i> West & West	- - x
<i>C. cunningtonii</i> G. S. West	- - x
<i>C. decachondrum</i> Roy & Biss.	
var. <i>ornatum</i> G.S. West	- - x
<i>C. depressum</i> (Näg.) Lund.	
var. <i>depressum</i>	- x x
var. <i>achondrum</i> (Boldt) West & West	- - x
<i>C. elaboratum</i> West & West	x - -
<i>C. fontigenum</i> Nordst.	x - -
<i>C. fullebornei</i> Schmidle	x - -

<i>C. galeritum</i> Nordst.		<i>C. scabratum</i> West & West	- x x
var. <i>galeritum</i>	x - x	<i>C. sexangulare</i> Lund.	
var. <i>muelleri</i> (Schmidle)		var. <i>sexangulare</i>	x - -
Krieg. & Gerl.*	x - -	var. <i>minus</i> Roy & Biss.	x x -
var. <i>retusum</i> G.S. West	x - x	<i>C. subauriculatum</i> West & West	x - x
<i>C. glyptodermum</i> West & West	- x -	<i>C. subconstrictum</i> Schmidle	- - x
<i>C. granatum</i> Bréb. ex Ralfs	x - x	<i>C. subcostatum</i> Nordst.	
<i>C. hammeri</i> Reinsch		f. <i>minus</i> West & West	x - -
var. <i>hammeri</i>	- - x	<i>C. subcucumis</i> Schmidle	- - x
var. <i>schmidlei</i> Grönb. & Scott*	x - -	<i>C. subdanicum</i> West	- - x
<i>C. impressulum</i> Elfv.*	x - x	<i>C. subprotumidum</i> Nordst.	x x -
<i>C. lacunatum</i> G.S. West	x - -	<i>C. subpyramidatum</i> (West & West)	
<i>C. laeve</i> Rabh.		Lütke.*	- x x
var. <i>laeve</i>	x - x	<i>C. subspeciosum</i> Nordst.	- x -
var. <i>minimum</i> West & West	x - -	<i>C. symoënsii</i> Van Oye**	- x -
<i>C. lindaui</i> Schmidle	x - -	<i>C. trilobulatum</i> Reinsch	
<i>C. lundellii</i> Delp.		var. <i>trilobulatum</i>	x - -
var. <i>lundellii</i>	x - -	var. <i>abscissum</i> (Schmidle)	
var. <i>madagascariensis</i> West & West	x - -	Krieg. & Gerl.*	- - x
<i>C. margaritatum</i> (Lund.)		<i>C. welheimii</i> Schmidle	x - -
Roy & Biss.	x x -	<i>C. zonarium</i> West & West	- x -
<i>C. margaritifera</i> (Turp.) Ralfs	x - -	<b>Cylindrocystis</b> Menegh. ex	
<i>C. meneghinii</i> Bréb. ex Ralfs*	x - x	De Bary	
<i>C. minimum</i> West & West	- x -	<i>C. brebissonii</i> (Menegh. ex Ralfs)	
<i>C. minutissimum</i> Arch.	- - x	De Bary	
<i>C. minutum</i> Delp.*	- - x	var. <i>brebissonii</i>	- x -
<i>C. moniliforme</i> (Turp.) Ralfs*	- - x	var. <i>curvata</i> Rabanus	
<i>C. multiordinatum</i> West & West	- - x	f. <i>quadripyrenoidea</i> Van Oye	- x -
<i>C. nitidulum</i> De Not.	- x -	<i>C. crassa</i> De Bary	- x -
<i>C. notabile</i> De Bary	- - x		
<i>C. nymannianum</i> Grun.		<b>Euastrum</b> Ehr. ex Ralfs	
var. <i>abyssinicum</i> (Lagerh.)		<i>E. ansatum</i> Ralfs	- - x
Krieg. & Gerl.*	x x -	<i>E. binale</i> Ralfs	
<i>C. obsoletum</i> (Hantzsch) Reinsch	x x x	var. <i>hians</i> W. West	x - -
<i>C. occultum</i> Schmidle	x - -	<i>E. denticulatum</i> (Kirchn.) Gay	- x -
<i>C. phaseolus</i> Bréb.	x - -	<i>E. elegans</i> Ralfs	- - x
<i>C. planum</i> West & West	x - -	<i>E. elobatum</i> (Lund.) Roy & Biss.*	x - -
<i>C. praemorsum</i> Bréb.	- - x	<i>E. engleri</i> Schmidle	
<i>C. pseudamoenum</i> Wille	- x -	var. <i>engleri</i>	- - x
<i>C. pseudobroomei</i> Wolle		var. <i>victoriae</i> Wolosz.	- - x
var. <i>pseudobroomei</i>	x x -	var. <i>woloszynskae</i> Krieg.	- - x
var. <i>compressum</i> G.S. West	- x -	<i>E. glaziovii</i> Börg.	
var. <i>madagascariensis</i> West & West	x - -	var. <i>glaziovii</i>	- - x
<i>C. pseudopyramidatum</i> Lund.	- - x	var. <i>evolutum</i> (Nordst.) Compère*	- - x
<i>C. quadrum</i> Lund.	x - x	f. <i>simplex</i> Compère	- - x
<i>C. regnesi</i> Reinsch	- x -	<i>E. hypochondroides</i> West & West	
<i>C. retusifera</i> (Wille) Gutw.	x - x	var. <i>hypochondroides</i>	- - x

<i>E. oculatum</i> Börg.	- x -
<i>E. personatum</i> West & West	x - -
<i>E. pseudopectinatum</i> Schmidle	- x -
<i>E. rostratum</i> Ralfs**	- - x
<i>E. sinuosum</i> Lœnorm.	
<i>E. spinulosum</i> Delp.	
var. <i>inermius</i> Nordst.	x x -
var. <i>spinulosum</i> *	x - x
<i>E. substellatum</i> Nordst.	
var. <i>wembaerense</i> Schmidle	x - x
<i>E. truncatiforme</i> G. S. West*	x - x
<i>E. turneri</i> West	x - -

**Gonatozygon** De Bary

<i>G. kinahanii</i> (Arch.) Rabh.	- x
<i>G. monotaenium</i> De Bary	- x x

**Hyalotheca** Ehr. ex Ralfs

<i>H. dissiliens</i> (Smith) Bréb. ex Ralfs	x - -
<i>H. mucosa</i> (Mert.) Ehr. ex Ralfs	
var. <i>mucosa</i>	- x -

**Mesotaenium** Näg.

<i>M. chlamydosporum</i> De Bary	- x -
<i>M. degreyi</i> Turn.	
var. <i>degrei</i>	- x -
var. <i>breve</i> W. West	- x -
<i>M. endlicherianum</i> Näg.	
var. <i>endlicherianum</i>	- x -
var. <i>grande</i> Nordst.	- x -
<i>M. macrococum</i> (Kütz.)	
Roy & Biss.	- x -

**Micrasterias** Ag. ex Ralfs

<i>M. americana</i> (Ehr.) Ralfs	- x x
<i>M. crux-melitensis</i> (Ehr.) Ralfs	x - -
<i>M. cunningtonii</i> G.S. West**	- - x
<i>M. divisa</i> Krieg.	x - -
<i>M. pinnatifida</i> (Kütz.) Ralfs	
var. <i>divisa</i> West f. <i>major</i>	
Schmidle	x - -
<i>M. tropica</i> Nordst.	
var. <i>elegans</i> West & West	x - -
<i>M. zeylanica</i> Fritsch*	x x -

**Netrium** (Näg.) Itzigs. & Rothe

<i>N. digitus</i> (Bréb. ex Ralfs)	
Itzigs. & Rothe	- x x

**Penium** Bréb. ex Ralfs

<i>P. didymocarpum</i> Lund.*	x - -
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**Pleurotaenium** Näg.

<i>P. caldense</i> Nordst.*	x x -
<i>P. coronatum</i> (Bréb.) Rabh.	- x -
<i>P. cylindricum</i> (Turn.) Schmidle	x - -
<i>P. ehrenbergii</i> (Bréb.) De Bary	x - x
<i>P. elatum</i> (Turn.) Borge	
var. <i>elatum</i>	- x -
<i>P. eugeneum</i> (Turn.) West & West	
var. <i>africanum</i> (G.S. West)	
Krieg.*	x - -
<i>P. maximum</i> (Reinsch) Lund.	- x x
<i>P. subcoronulatum</i> (Turn.)	
West & West	
var. <i>subcoronulatum</i>	- - x
var. <i>africanum</i> (Schmidle) Krieg.*	x - -
var. <i>detum</i> West & West	- - x
<i>P. trabecula</i> (Ehr.) Näg.	- x x

**Roya** West & West

<i>R. obtusa</i> (Bréb.) West & West	- x -
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**Spondylosium** Bréb. ex Kütz.

<i>S. papillosum</i> West & West*	x - -
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**Staurostrum** Meyen ex Ralfs

<i>S. alternans</i> Bréb. ex Ralfs	- x -
<i>S. americanum</i> (West & West)	
G.M. Smith	
var. <i>americanum</i>	- - x
var. <i>longiradiatum</i> G.M. Smith	- - x
<i>S. anatinum</i> Cooke & Wills	
var. <i>anatinum</i>	- - x
var. <i>subglabrum</i> G.S. West	- - x
<i>S. brebissonii</i> Arch.*	- - x
<i>S. coarctatum</i> Bréb.	
var. <i>subcurtum</i> Nordst.	- - x
<i>S. cunningtonii</i> G.S. West	- x -
<i>S. denticulatum</i> (Näg.) Arch.	- - x
<i>S. disputatum</i> West & West	
var. <i>disputatum</i>	- - x
<i>S. echinatum</i> Bréb.	- - x
<i>S. engleri</i> Schmidle	- - x
<i>S. erostellum</i> West & West	- - x

<i>S. excavatum</i> West & West		<i>S. sinense</i> Lütkem.*	- - x
var. <i>excavatum</i>	- - x	<i>S. subgemmulatum</i> West & West	- - x
var. <i>minimum</i> Bern.	- - x	<i>S. subgracillimum</i> West & West	- - x
var. <i>planctonicum</i> Krieg.	- - x	<i>S. submanfeldtii</i> West & West	x - x
<i>S. fuellebornii</i> Schmidle	x - -	<i>S. subprotractum</i> Schmidle	x - -
<i>S. gracile</i> Ralfs		<i>S. subtrifurcatum</i> West & West	
var. <i>gracile</i>	- - x	var. <i>subtrifurcatum</i>	- - x
var. <i>nyansae</i> G.S. West	- - x	f. <i>bidens</i> Schmidle	x - x
var. <i>protractum</i> G.S. West	x - x	<i>S. tetracerum</i> Kütz. ex Ralfs	- x x
var. <i>subornatum</i> Schmidle	- - x	<i>S. tohopekaligense</i> Wolle	
<i>S. gladiusum</i> Turn.	- - x	var. <i>tohopekaligense</i>	- - x
<i>S. gracillimum</i> West & West	- - x	f. <i>triangulare</i> G.S. West	- - x
<i>S. leptocladum</i> Nordst.		var. <i>nonanum</i> (Turn.) Schmidle	- - x
var. <i>cornutum</i> Wille	- - x	var. <i>quadrangulare</i> G.S. West**	- - x
var. <i>leptocladum</i>	x - x	var. <i>trifurcatum</i> West & West	x - -
f. <i>africanum</i> G.S. West	x - x	<i>S. turgescens</i> De Not.	
<i>S. limneticum</i> Schmidle		var. <i>turgescens</i>	x - -
var. <i>limneticum</i>	- - x	f. <i>minus</i> G.S. West	x - -
var. <i>aculeatum</i> Lemm.	- - x	<i>S. ukerewense</i> Thom.	- - x
var. <i>groenbladii</i> Croasd.	- - x	<i>S. volans</i> West & West	- - x
f. <i>victoriense</i> Croasd.	- - x		
<i>S. lindae</i> Grönb.	- - x	<b>Staurodesmus</b> Teiling	
<i>S. longiradiatum</i> West & West	- - x	<i>S. brevispina</i> (Bréb. ex Ralfs)	
<i>S. margaritaceum</i> Ehr. ex Ralfs	- x -	Croasd.*	
<i>S. monticulosum</i> Bréb.	- - x	var. <i>brevispina</i>	- - x
<i>S. mutabile</i> Turn.	- x -	fac.2 <i>fuellebornii</i> Teil.*	x - x
<i>S. muticum</i> Bréb. ex Ralfs	- - x	<i>S. convergens</i> (Ehr.) Teil.	
<i>S. orbiculare</i> Ehr. ex Ralfs		var. <i>convergens</i>	- x x
var. <i>depressum</i> Roy & Biss.	- x x	<i>laportei</i> Teil.*	- - x
<i>S. paradoxum</i> Meyen ex Ralfs**		<i>S. corniculatus</i> (Lund.) Teil.*	- - x
var. <i>paradoxum</i>	- - x	<i>S. cuspidatus</i> (Bréb. ex Ralfs)	
var. <i>parvum</i> W. West	- - x	Teil.*	- - x
<i>S. pilosum</i> (Näg.) Arch.		<i>S. dejectus</i> (Bréb. ex Ralfs) Teil.*	- - x
var. <i>minimum</i> G.S. West	- - x	<i>S. dickiei</i> (Ralfs) Lill. *	
<i>S. planctonicum</i> Teil.		var. <i>dickiei</i>	- - x
var. <i>bulbosum</i> (West) Thom.	- - x	var. <i>circularis</i> (Turn.) Croasd.*	x - -
<i>S. polymorphum</i> Bréb.	- - x	<i>S. glaber</i> (Ehr.) Teil.	
<i>S. pseudotetracerum</i> (Nordst.)		var. <i>limnophilus</i> Teil.*	- - x
West & West	- - x	<i>S. incus</i> (Bréb. ex Ralfs) Teil. *	
<i>S. punctulatum</i> Bréb. ex Ralfs	- - x	var. <i>incus</i> *	- - x
<i>S. quadrangulare</i> Bréb. ex Ralfs		var. <i>ralfsii</i> (W. West) Teil.*	- - x
var. <i>attenuatum</i> Nordst.	- x -	<i>S. jaculiferus</i> (W. West) Teil. *	- - x
<i>S. sebaldi</i> Reinsch		<i>S. sellatus</i> Teil.	- - x
var. <i>ornatum</i> Nordst.		<i>S. subtriangularis</i> (Borge) Teil.*	- - x
f. <i>planctonicum</i> (Lütkem.) Teil.	- - x	<i>S. subulatus</i> (Kütz.) Thom.	
<i>S. setigerum</i> Cleve		var. <i>subaequalis</i>	
var. <i>setigerum</i>	- - x	(G.S. West)*	x - x
var. <i>nyansae</i> Schmidle	- - x	<i>S. triangularis</i> (Lagerh.) Teil.*	- - x
var. <i>occidentale</i> West & West	- - x		

**Teilingia** Bourr.

*T. excavata* (Ralfs) Bourr.\*                    x   -   -

**Tetmemorus** Ralfs

*T. laevis* (Kütz.) Ralfs                                x   -

**Xanthidium** Ehr. ex Ralfs

*X. antilopaeum* Bréb. ex Kütz.                    -   -   x

*X. cristatum* Bréb. ex Ralfs                    x   -   -

**ZYGNEMATALES**

**Debarya** Wittr.

*D. africana* G.S. West                                x   -   -

**Mougeotia** Ag.

*M. planctonica* Vir.                                    -   -   x

*Mougeotia* sp.                                        x   x   -

**Spirogyra** Link

*S. aequinoctialis* G.S. West                    x   -   -

*S. bellis* (Hass.) Cleve                                -   x   -

    var. *minor* G.S. West                                -   x   -

*S. columbiana* Czurda\*                                x   x   -

*S. decimina* (O.F. Müll.) Kütz.                    x   -   -

    var. *decimina*                                        x   -   -

*S. neglecta* (Hass.) Kütz.                                -   x   -

    var. *temata* (Ripert)                                -   x   -

    West & West                                        -   x   -

*S. nitida* (Dillw.) Link                                x   -   -

*S. pellida* Dickie                                        x   -

*S. porticalis* (O.F. Müll.) Cleve                    x   -   -

    var. *africana* G.S. West                                x   -   -

*Spirogyra* sp.                                        -   x   -

**SIPHONOCCLADALES**

**Chaetomorpha** Kütz.

*C. linum* Kütz.                                        -   x   -

**Stigeoclonum** Kütz.

*S. nanum* Kütz.                                        -   x

**CHARALES**

**Chara** L.

*C. setosa* Klein ex Willd.\*                                -   -   -

    f. *setosa*    x   x   -

    f. *tanganyikae* (R.D. W.)                                -   x   -

        R.D. W.\*    -   x   -

*C. vulgaris* L.    -   -   -

    f. *gymnophylla* (A.Br.) R.D. W.\*                    -   x   -

*C. zeylanica* Klein ex Willd.                                -   x   -

**Nitella** Ag.

*N. mucronata* (A. Br.) Miq.\*                                -   x   -

**EUGLENOPHYTA**

**Astasia** Ehr.

*A. quartana* (Morr.) Pringsh.                                -   x   -

**Colacium** Ehr.

*C. simplex* Hub.-Pest.                                        -   x   -

**Euglena** Ehr.

*E. acus* Ehr.    -   x   -

*E. agilis* Cart.    -   x   -

*E. caudata* Hub.-Pest.                                        -   -   -

    var. *minor* Defl.    -   x   -

*E. ehrenbergii* Klebs                                        -   x   -

*E. hemichromata* Skuja                                        -   x   -

*E. intermedia* (Klebs) Schmitz                                -   x   -

*E. klebsii* (Lemm.) Mainx                                        -   x   -

*E. limnophila* Lemm.    -   -   -

    var. *minor* Drezep.    -   x   -

*E. oblonga* Schmitz    -   x   -

*E. oxyuris* Schmarda    -   -   -

    f. *charkowiensis* (Swir.) Bourr.\*                                -   x   -

*E. proxima* Dang.    -   x   -

*E. spirogyra* Ehr.    x   -   -

*E. variabilis* Klebs    -   x   -

*E. viridis* Ehr.    x   x   -

*Euglena* sp.    -   x   -

**Eutreptia** Perty

*Eutreptia* sp.    x   -   -

**Lepocinclis** Perty

L. fusiformis Lemm.	- x -
L. ovum (Ehr.) Lemm.	
var. ovum	x x -
f. inamoullata Defl.	- x -
f. mammillata Defl.	- x -
L. texta (Dujard.) Lemm.	
var. texta	- x -
var. richiana Conr.	- x -

**Petalomonas** Stein

Petalomonas sp.	- x -
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**Phacus** Nitzsch

P. acuminatus Stokes	- x -
P. agilis Skuja	- x -
P. angulatus Pochm.	- x -
P. brevicaudatus (Klebs) Lemm.	- x -
P. curvicauda Swir.	- x -
P. hamatus Pochm.	- x -
P. helicoides Pochm.	- x -
P. longicauda (Ehr.) Dujard.	x x -
P. orbicularis Hübn.	- x -
P. pleuronectes (O.F. Müll.) Dujard.	x - -
P. pusillus Lemm.	- x -
P. pyrum (Ehr.) Stein	- x -
P. skujae Skvortz.	- x -
P. suecicus Lemm.	- x -
P. tortus (Lemm.) Swir.	- x -

**Strombomonas** Defl.

S. acuminata (Schmarda) Defl. *	
var. acuminata	- x -
var. amphora Playf.	- x -
S. annulata (Dad.) Defl.	x - -
S. fluviatilis (Lemm.) Defl.	- x -

**Trachelomonas** Ehr.

T. armata (Ehr.) Stein	
var. steinii Lemm. emend. Defl.	- x -
T. bacillifera Playf.	
var. globulosa Playf.	- x -
T. curta Da Cunha	- x -
T. dubia Swir. emend Defl.	
var. colliundulata Calj.	- x -
T. gatumbana Calj.	- x -

**T. hispida** (Perty) Stein emend. Defl.

var. hispida	x x -
var. crenulato-collis (Mask.)	
Lemm.	
f. recta Defl.	- x -
var. duplex Defl.	- - x
T. klebsii Defl.	- x -
T. komarovii Skvortzov	
var. bicollaris Calj.	- x -
T. lefevrei Defl.	- x -
T. lemmermannii Wolosz.	- x -
T. ovalis Dad.	x - -
T. pulcherrima Playf.	
var. pulcherrima	- x -
var. latior Playf.	- x -
T. raciborskii Wolosz.	- - x
T. scabra Playf.	
var. scabra	- x -
var. ovata Playf.	- x -
T. stokesii Drezep. emend. Defl.	- x -
T. volvocina Ehr.	x x -
T. volvocinopsis Swir.	- x -

**DINOPHYTA****Ceratium** Schrank

C. brachyceros Dad.*	- - x
C. hirundinella (O. Müll.) Dujard.*	
f. hirundinella	x - x
f. brachyceroides Schröd.	- - x

**Glenodinium** Ehr.

G. pulvisculus (Ehr.) Stein	
var. pulvisculus	- x -
var. depressum Vir.	- - x
G. quadridens (Stein) Schill.	x x x
Glenodinium sp.	- x -

**Gymnodinium** Stein

G. lantzchii Uterm.*	- x -
G. lacustre Schill.*	- x -
G. uberrimum (Allm.) Kof.	
& Swezy*	- x -
G. varians Mask.	- x -
Gymnodinium spp.	x x -



**Peridiniopsis** Lemm.

<i>P. berolinense</i> (Lemm.) Bourr.*	- x -
<i>P. cunningtonii</i> Lemm.*	- x x
<i>P. penardii</i> (Lemm.) Bourr.*	- x x

**Peridinium** Ehr.

<i>P. africanum</i> Lemm.	
var. <i>africanum</i>	x x -
tab. <i>remotum</i> Lef.	- x -
<i>P. bipes</i> Stein	x - -
<i>P. cinctum</i> Ehr.	- - x
<i>P. inconspicuum</i> Lemm.**	- x -
<i>P. palatinum</i> Lauterb.*	x x -
<i>P. pusillum</i> (Penn.) Lemm.**	- x -
<i>P. umbonatum</i> Stein**	- - x
<i>P. volzii</i> Lemm.**	- x -
<i>P. westii</i> Lemm.**	- - x
<i>Peridinium</i> sp.	- x -

**Sphaerodinium** Wolosz.

<i>S. cinctum</i> Wolosz.*	- x -
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**XANTHOPHYTA****Goniochloris** Geitler

<i>G. laevis</i> Pasch.	- x -
<i>G. mutica</i> (A. Br.) Fott	- x -
<i>G. smithii</i> (Bourr.) Fott	- x -

**Isthmochloron** Skuja

<i>I. lobulatum</i> (Näg.) Skuja*	- - x
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**Ophiocytium** Näg.

<i>O. biapiculatum</i> Hieron.	x - -
<i>O. parvulum</i> (Perty) A. Br.	
var. <i>parvulum</i>	x - -
var. <i>circinatum</i> (Wolle) Lemm.	- - x

**Polygoniochloris** Ettl

<i>P. circularis</i> (Bourr. & Geor.) Ettl	- x -
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**Pseudostaurastrum** (Hansg.)

Chod.

<i>P. enorme</i> (Ralfs) Chod.*	- - x
<i>P. hastatum</i> (Reinsch) Chod.*	- - x

*P. limneticum* (Borge) Chod.\*

var. <i>limneticum</i>	- - x
[var. <i>minimum</i> (A. Br.) Hansg.*]	- - x

**CHRYSOPHYTA****Bicosoeca** Clark

<i>B. conica</i> Lemm.	- x -
<i>B. planctonica</i> Kiss.	
var. <i>planctonica</i>	- x -
var. <i>multiannulata</i> (Skuja) Bourr.	- x -
<i>Bicosoeca</i> sp.	- x -

**Cercobodo** Krassilstchik

<i>Cercobodo</i> sp.	- x -
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**Chromulina** Cienkowski

<i>Chromulina</i> sp.	- x -
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**Chrysostephanosphaera**

Scherff.

<i>C. globulifera</i> Scherff.	- x -
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**Codonosigopsis** Senn

<i>C. robini</i> Senn	- - x
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**Desmarella** Kent

<i>D. moniliformis</i> Kent	- x -
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**Dinobryon** Ehr.

<i>D. sertularia</i> Ehr.	- - x
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**Erkenia** Skuja

<i>E. subaequiciliata</i> Skuja	- x -
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**Kephyrion** Pasch.

<i>K. cupiliforme</i> Contr.	- x -
<i>K. planctonicum</i> Hill.	- x -

**Mallomonas** Perty

<i>M. cf. spinulosa</i> Contr.	- - x
<i>Mallomonas</i> sp.	- x -

**Monosiga** Kent

<i>M. robusta</i> Stokes	x -
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X -

**Skeletonema** Grev.

*S. potamos* (Weber) Hasle\* - x -

**Stephanodiscus** Ehr.

*S. astraea* (Egr.) Grun.\*\*

var. *astraea* x x x

f. *tanganikae* Kufferath - x -

var. *intermedius* Fricke x - x

*S. carconensis* Grun. - x -

*S. hantzschii* Grun. x - -

f. *tenuis* (Hust.) Håkansson x - -

*S. minutulus* (Kütz.) Cl. & Möller\* x x x

*S. muelleri* Klee & Casper x - -

*S. parvus* (Cl. & Möller) Stoermer

& Håkansson\* x - x

*Stephanodiscus* sp. x x -

**Thalassiosira** Cl.

*T. faurei* (Gasse) Hasle - x -

*T. rudolfi* (Bachm.) Hasle - x x

**RHIZOSOLENIALES**

**Rhizosolenia** Brightwell

*R. curviseta* Hust.\* - - x

*R. eriensis* H.L. Smith

f. *eriensis* - x x

f. *brevispina* Wolosz. - - x

var. *pusilla* Wolosz. x x x

*R. insignis* H.L. Smith - - x

*R. stagnalis* (Zach.) Schröder - - x

*R. victoriae* Schröder - - x

*Rhizosolenia* sp. - - x

**BIDDULPHIALES**

**Odontella** Ag.

*O. aurita* (Lyngb.) Ag.\* x - -

**PENNATOPHYCIDAE**

**ARAPHIDALES**

**Asterionella** Hass.

*A. formosa* Hassall\* - - x

**Diatoma** Bory

*D. elongata* Ag.

var. *elongata* - - x

var. *chappuisii* Bachm. - - x

**Fragilaria** Lyngb.

*F. aethiopica* G.S. West - x -

*F. africana* Hust. x x x

*F. brevistriata* Grun.

var. *brevistriata* x x x

var. *trigibba* (Pant.) Hust. - x -

*F. capucina* Desmazieres

var. *capucina* x - -

var. *mesolepta* Rabh. - x -

*F. constricta* Ehr.\* x - -

*F. construens* (Ehr.) Grun.

var. *construens* x x x

var. *exigua* (W. Smith) Schulz\* - - x

var. *javanica* Hust. - x -

var. *subsalina* Hust. - x -

var. *venter* (Ehr.) Grun. x x x

*F. crotonensis* Kitton - - x

*F. heidenii* Østrup - x -

*F. hungarica* Pant. - - x

*F. lapponica* Grun.\* x - x

*F. leptostauron* (Grun.) Mayer

var. *leptostauron* - x x

var. *dubia* (Grun.) Hust. - x -

*F. longissima* Hust. - - x

*F. intermedia* (Grun.) Grun.\* x - -

*F. pinnata* Ehr.\*

var. *pinnata* x x x

var. *lancettula* (Schumann) Hust. - x x

var. *trigona* (Brun. & Hérib.)

Hust. - - x

*F. vaucheriae* (Kütz.) Boye-Pet. - - x

var. *capitellata* (Grun.) Ross\* - x -

*F. virescens* Ralfs x x x

**Meridion** Ag.

*M. circulare* (Grev.) Ag. - x -

**Opephora** Petit

*O. martyi* Héríb. - x -

**Synedra** Ehr.\*\*

*S. acus* Kütz. x x x

var. *acus* x x x

var. *angustissima* Grun. x x -

*S. amphicephala* Kütz. x - -

*S. berolinensis* Lemm.\* - x x

*S. cunningtonii* G.S. West - - x

*S. goulardii* Bréb. - x x

*S. nyansae* G.S. West\* x x x

*S. pulchella* Ralfs ex Kütz. - x x

*S. radians* (Kütz.) Grun.\* x x x

*S. rumpens* Kütz. - - -

var. *rumpens* - x x

var. *fragilarioides* Grun. x x -

*S. revaliensis* Lemm. - x -

*S. tabulata* (Ag.) Kütz. - - -

var. *fasciculata* (Ag.) Hust.\* - x -

var. *parva* (Kütz.) Hust\*. x - -

*S. ulna* (Nitz.) Ehr.\* x x x

var. *ulna* x x x

var. *aequalis* (Kütz.) Hust. - x -

var. *amphirhynchus* (Ehr.) Grun.\* x x -

var. *biceps* (Kütz.) Schönfeldt x - -

var. *danica* (Kütz.) Grun. x x -

var. *oxyrhynchus* (Kütz.) V.H. - x -

**Tabellaria** Ehr.

*T. fenestrata* (Lyngb.) Kütz.\* - - x

var. *fenestrata* - - x

var. *asterionelloides* Grun. - - x

*T. flocculosa* (Rabh.) Kütz. - - x

**RAPHIDIOIDALES****Eunotia** Ehr.

*E. arcus* Ehr. x x -

*E. cf. camelus* Ehr. - x -

*E. curvata* (Kütz.) Lgst. - x -

*E. didyma* Grun. - - -

var. *tuberosa* Hust. - x -

*E. flexuosa* Bréb. ex Kütz.\* x x x

var. *flexuosa* x x x

var. *eurycephala* Grun. - x -

*E. glacialis* Meister\* - x -

*E. incisa* W. Smith ex Greg. - x -

*E. lunaris* (Ehr.) Grun.\*\* x x x

*E. microcephala* Krasske\* - x -

*E. monodon* Ehr. - x -

*E. pectinalis* (O.F.Mül.) Rabh. x x x

var. *pectinalis* x x x

var. *minor* (Kütz.) Rabh. - x -

var. *minor f. impressa* (Ehr.) Hust. - x -

var. *rostrata* Germain - x -

var. *undulata* (Ralfs) Rabh. x x -

var. *ventricosa* Grun. - x -

*E. tridentula* Ehr. x - -

*E. porcellus* Chol. - x -

*E. rabenhorstii* Cl. & Grun. - - -

var. *africana* Hust. - x -

var. *monodon* Grun. - x -

**MONORAPHIDALES****Achnanthes** Bory

*A. bergiana* Cl. - x -

*A. brevipes* Ag. x - -

var. *intermedia* (Kütz.) Cl.\* x - -

*A. buccula* Chol. - x -

*A. coarctata* Grun. x - -

*A. congolensis* Hust. - - x

*A. delicatula* (Kütz.) Grun. - x -

*A. exigua* Grun. x x -

*A. hungarica* (Grun.) Grun. - x -

*A. inflata* (Kütz.) Grun.\* x x -

var. *inflata* x x -

var. *elata* (Leuduger-Fortmorel)

Hust. - x -

*A. lanceolata* (Bréb.) Grun.\* x x -

var. *lanceolata* x x -

var. *dubia* Grun. x x -

var. *haynaldii* (Istv.-Schaarsch.)

Cl. \* x - -

var. *minor* (Schulz) L.-B. - x -

var. *rostrata* (Østrup) Hust. - x -

*A. linearis* (W. Smith) Grun. x x -

*A. minutissima* Kütz. x x -

var. *minutissima* x x -

var. *affinis* (Grun.) L.-B. - x -

*A. oblongella* Østrup\* - x -

*A. rupestoides* Hohn\* - x x

*A. subhudsonis* Hust. x x -

*Achnanthes* sp. - x -

### **Cocconeis** Ehr.

*C. disculus* (Schumann) Cl. x x -  
*C. pediculus* Ehr. x x x  
*C. placentula* Ehr.  
    var. *placentula* x x x  
    var. *euglypta* (Ehr.) Cl. x x x  
    var. *lineata* (Ehr.) Cl. x - -  
    var. *rouxii* (Brun & Hérub.) Cl. - x -  
*C. thumensis* A. Mayer - - x

### **Rhoicosphenia** Grun.

*R. abbreviata* (C. Ag.) L.-B.\* x x x

## **BIRAPHIDALES**

### **Amphora** Ehr.

*A. coffeiformis* (C. Ag.) Kütz.  
    var. *coffeiformis* - x -  
    var. *acutiuscula* (Kütz.) Rabh. - x -  
*A. copulata* (Kütz.) Schoëman  
    & Archibald\*\* x x x  
*A. inariensis* Kram. - x -  
*A. montana* Krasske - x -  
*A. ovalis* (Kütz.) Kütz.  
    var. *ovalis* x x -  
    var. *gracilis* (Ehr.) Grun. x - -  
    var. *tallingiae* Gasse - x x  
*A. pediculus* (Kütz.) Grun.\* x x x  
*A. strigosa* Hust. - x -  
*A. tanganyikae* Calj. - x -  
*A. thromboliticola* Cocquyt - x -  
*A. cf. calumetica* (Thomas ex  
    Wolle) M. Perag. - x -  
*Amphora* sp. - x -

### **Anomoeoneis** Pfitzer

*A. sphaerophora* (Ehr.) Pfitzer  
    f. *sphaerophora*\* x x -  
    f. *sculpta* (Ehr.) Kram. - x -  
    var. *guentheri* O. Müll. - x -

### **Brachysira** Kütz.

*B. brebissonii* Ross - x -  
*B. microcephala* (Grun.) Compère\* - x -  
*B. serians* (Bréb.) Round & Mann\* x x -

### **Caloneis** Cl.

*C. aerophila* Bock - x -  
*C. amphisbaena* (Bory) Cl. - x -  
*C. bacillum* (Grun.) Cl.\* x x -  
*C. hyalina* Hust. - x -  
*C. molaris* (Grun.) Kram. - x -  
*C. permagna* (Bailey) Cl. - x -  
*C. limosa* (Kütz.) Patrick\* - x -  
*C. ventricosa* (Ehr.) Meister\*  
    var. *ventricosa*\* - x x  
    var. *truncatula* (Grun.) Meist.\* x --

### **Campylodiscus** Ehr.

*C. tanganicae* Hust. - x -

### **Capartogramma** Kufferath

*C. amphoroides* Ross x x -  
*C. crucicula* (Grun. ex Cl.) Ross\* x x -  
*C. karstenii* (Zanon) Ross\* x x x  
*C. rhombicum* Ross - x -

### **Cymatopleura** W. Smith

*C. calcarata* Hust. - x -  
*C. elliptica* (Bréb.) W. Smith  
    var. *hibernica* (W. Smith) V.H.\* x - -  
*C. nyansae* G.S. West x x x  
*C. solea* (Bréb.) W. Smith\*  
    var. *solea* x x x  
    var. *apiculata* (W. Smith) Ralfs\* x x x  
    var. *clavata* O. Müll. x - x  
    var. *elegans* Vir. x - x  
    var. *laticeps* O. Müll. x - x  
    var. *nyanzae* G.S. West - - x  
    var. *rugosa* O. Müll. - - x  
*C. subconstricta* O. Müll.\* - - x

### **Cymbella** Ag.

*C. aequalis* W. Smith x - -  
*C. affinis* Kütz. - x x  
*C. amphicephala* Nägeli - x -  
*C. caespitosa* (Kütz.) Brun x x -  
*C. cistula* (Ehr.) Kirchner\*  
    var. *cistula* x x x  
    var. *maculata* (Kütz.) V.H.\* - - x  
*C. comuta* (Ehr.) Ross\* x x x  
*C. cucumis* A. Schmidt - x -  
*C. cuspidata* Kütz. x x -

<i>C. cymbiformis</i> Ag.*		var. <i>saxonica</i> (Kütz.) Patrick	- - x
var. <i>cymbiformis</i>	x x x	<i>E. argus</i> (Ehr.) Kütz.	
var. <i>nonpunctata</i> Fontell	- x -	var. <i>argus</i>	x x -
<i>C. elginensis</i> Kram.*	x x x	var. <i>alpestris</i> Grun.*	x - -
<i>C. grossestriata</i> O. Müll.		<i>E. sorex</i> Kütz.	x x x
var. <i>grossestriata</i>	x x x	<i>E. turgida</i> (Ehr.) Kütz.	x x x
var. <i>tanganyikae</i> G.S. West*	- x -		
<i>C. laevis</i> Nägeli*	- x -	<b>Frustulia</b> Rabh.	
<i>C. leptoceros</i> (Ehr.) Kütz.*		<i>F. rhomboides</i> (Ehr.) De Toni*	
var. <i>leptoceros</i>	- x x	var. <i>rhomboides</i>	x x x
var. <i>angusta</i> Grun.	x - -	var. <i>crassinervia</i> (Bréb.) Ross	- x -
<i>C. lunata</i> W. Smith*	- x -	var. <i>saxonica</i> (Rabh.) De Toni *	- x x
<i>C. lunula</i> (Ehr.) Grun.	x - -	<i>F. vulgaris</i> (Thwaites) De Toni*	- x -
<i>C. cf. mendosa</i> VanLandingham*	- x -		
<i>C. microcephala</i> Grun.	- x -	<b>Gomphocymbella</b> O. Müll.	
<i>C. minuta</i> Hilse ex Rabh.*	x x x	<i>G. aschersonii</i> O. Müll.	x - -
<i>C. muelleri</i> Hust.*	x x x	<i>G. beccarii</i> (Grun.) Forti*	x x x
<i>C. naviculoides</i> Hust.	- x -	<i>G. gracilis</i> Hust.	x x x
<i>C. parva</i> (W. Smith) Wolle	x x -	<i>G. muelleri</i> Kociolek & Stoermer	- x -
<i>C. prostrata</i> Berk.	x - -	<i>G. rossii</i> Kociolek & Stoermer	- x -
<i>C. silesiaca</i> Bleich ex Rabh.*	- x -	<i>G. tanganyikae</i> Kociolek & Stoermer	- x -
<i>C. subcuspidata</i> Krammer*	x - -	<i>Gomphocymbella</i> sp.	- - x
<i>C. triangulum</i> Ehr.	x - -		
<i>C. tumida</i> (Bréb.) V.H.	x - x	<b>Gomphonema</b> Ag.	
<i>C. turgida</i> (Greg.) Cl.*	x x x	<i>G. acuminatum</i> Ehr.	- x -
<i>Cymbella</i> sp.	- x -	<i>G. aequatoriale</i> Hust.	x x x
		<i>G. affine</i> Kütz.	- x -
<b>Cymbellonitzschia</b> Hust.		<i>G. africanum</i> G.S. West	
<i>C. minima</i> Hust.	x x -	f. <i>africanum</i>	- x -
		f. <i>turris</i> Kufferath	- x -
<b>Denticula</b> Kütz.		<i>G. angustatum</i> (Kütz.) Rabh.	x - -
<i>Denticula</i> sp.	- x -	<i>G. apicetrapezon</i> Kufferath**	- x -
		<i>G. augur</i> Ehr.	
<b>Diploneis</b> Ehr.		var. <i>turris</i> (Ehr.) L.-B.*	x x -
<i>D. elliptica</i> (Kütz.) Cl.*	x x -	<i>G. brachyneura</i> O. Müll.	x - x
<i>D. finnica</i> (Ehr.) Cl.	- x -	<i>G. clavatum</i> Ehr.*	x - x
<i>D. oblongella</i> (Nägeli ex Kütz.)		<i>G. clevei</i> Fricke	x x x
Cl.*	x x -	<i>G. dichotomum</i> Kütz.*	x x -
<i>D. ovalis</i> (Hilse) Cl.*	x x -	<i>G. exiguum</i> Kütz.	- x x
<i>D. smithii</i> (Bréb. ex W. Smith) Cl.*	x x -	<i>G. frickei</i> O. Müll.	x - -
<i>D. subovalis</i> Cl.	x x -	<i>G. gracile</i> Ehr.*	
<i>Diploneis</i> sp.	- x -	var. <i>gracile</i>	x x x
		f. <i>turris</i> Hust.	- x -
<b>Epithemia</b> Bréb. ex Kütz.		var. <i>auritum</i> (Kütz.) Grun.	x - -
<i>E. adnata</i> (Kütz.) Bréb.*		var. <i>dichotomum</i> (W. Smith) V.H.	x x -
var. <i>adnata</i>	x x x	var. <i>naviculoides</i> (W. Smith)	
var. <i>porcellus</i> (Grun.) Ross*	x - x	Grun*	x - -
var. <i>proboscidea</i> (Kütz.) Hendey*	x - -	<i>G. kilhamii</i> Kociolek & Stoermer	- x -

<i>G. navicella</i> O. Müll.	x - -	<i>N. arenariaeformis</i> Pant.	- - x
<i>G. olivaceum</i> (Hornemann) Bréb.	- x -	<i>N. arvensis</i> Hust.	x x -
<i>G. paddockii</i> Kociolek & Stoermer	- x -	<i>N. atomus</i> (Kütz.) Grun.	x - -
<i>G. parvulum</i> (Kütz.) Kütz.*	x x x	<i>N. avenacea</i> (Bréb. & Godey)	
<i>G. pumilum</i> (Grun.) Reich. &		Bréb.*	- x -
L.-B.*		<i>N. bacillum</i> Ehr.*	- x -
[var. <i>pusillum</i> Mayer]	- - x	<i>N. bahusiensis</i> Grün.	x x -
<i>G. sparsistriatum</i> O. Müll.	x - -	<i>N. barbarica</i> Hust.	x x x
<i>G. truncatum</i> Ehr.*	x - -	<i>N. brevissima</i> Hust.*	- x -
<i>G. vibrio</i> Ehr.*	x - -	<i>N. capitata</i> Ehr.	
		var. <i>capitata</i>	- x -
<b>Gomphonitzschia</b> Grun.		var. <i>hungarica</i> (Grun.) Ross	x x -
<i>G. ungeri</i> Grun.	x x x	<i>N. capitatoradiata</i> Germain*	x x x
<i>Gomphonitzschia</i> sp.	- - x	<i>N. cincta</i> (Ehr.) Ralfs	x x -
		<i>N. cohnii</i> (Hilse) L.-B.*	x - -
<b>Gyrosigma</b> Hass.		<i>N. concentrica</i> Carter*	x - -
<i>G. acuminatum</i> (Kütz.) Rabh.	- x -	<i>N. confervacea</i> (Kütz.) Grun.	x x -
<i>G. attenuatum</i> (Kütz.) Rabh.	- x -	<i>N. contenta</i> Grun.	- x -
<i>G. balticum</i> (Ehr.) Rabh.	- x -	<i>N. costulata</i> Grun.	x x -
<i>G. distortum</i> (W. Smith) Griff.		<i>N. crucicula</i> (W. Smith) Donkin	x x -
& Henfrey		<i>N. cryptocephala</i> Kütz.*	x x x
var. <i>parkeri</i> (Harrison) Cl.	- - x	<i>N. cryptotenella</i> L.-B.*	x x -
<i>G. nodiferum</i> (Grun.) Reimer*	x x -	<i>N. cuspidata</i> (Kütz.) Kütz.*	x x x
<i>G. scalproides</i> (Rabh.) Cl.	x x -	<i>N. damasii</i> Hust.	x x x
<i>G. sciotense</i> (Sull. et Wormley) Cl.	- x -	<i>N. decussis</i> Østrup*	x x x
<i>G. spenceri</i> (Quekett) Griffith &		<i>N. digitoradiata</i> (Greg.) Ralfs	x x -
Henfrey	- x -	<i>N. distincta</i> G.S. West	- x -
<i>G. wormleyi</i> (Sull.) Boyer	x x -	<i>N. elaborata</i> Hust.	- x -
<i>Gyrosigma</i> sp.	- - x	<i>N. elginensis</i> (Greg.) Ralfs*	x x -
		<i>N. erifuga</i> L.-B.	- x -
<b>Hantzschia</b> Grun.		<i>N. exigua</i> (Greg.) Grun.*	
<i>H. amphioxys</i> (Ehr.) Grun.		var. <i>exigua</i>	x x x
var. <i>amphioxys</i>	x x x	var. <i>lanceolata</i> O. Müll.*	x - -
var. <i>africana</i> Hust.	- x -	<i>N. faceta</i> Hust.	- - x
var. <i>africana</i> f. <i>brevis</i> Compère	- x -	<i>N. fossalis</i> Krasske	
var. <i>vivax</i> Grun.	x - -	var. <i>obsidialis</i> (Hust.) L.-B.	- x -
<i>H. virgata</i> (Roper) Grun.	- x -	<i>N. gallica</i> (W. Smith) V.H.	
		var. <i>gallica</i>	- x -
<b>Mastogloia</b> Thwaites		var. <i>perpusilla</i> (Grun.) L.-B.	- x -
<i>M. elliptica</i> (Ag.) Cl.		<i>N. gastrum</i> (Ehr.) Kütz.*	
var. <i>elliptica</i>	- x -	var. <i>gastrum</i>	x x x
var. <i>dansei</i> (Thwaites) Cl.	- x -	var. <i>signata</i> Hust.	- x -
<i>M. smithii</i> Thwaites	- x -	var. <i>tanganikae</i> Kufferath	- x -
		var. <i>transvaalensis</i> Chohn.	- x -
<b>Navicula</b> Bory		var. <i>turgida</i> O. Müll.	x - -
<i>N. absoluta</i> Hust.	- x -	<i>N. goeppertiana</i> (Bleisch)	
<i>N. agrestis</i> Hust.	- x -	H.L. Smith*	x x -
<i>N. amplexans</i> Hust.	- x -		

<i>N. halophila</i> (Grun.) Cl.		var. <i>permagna</i> O. Müll.	x - -
f. <i>halophila</i> *	- x -	<i>N. aff. rhynchocephala</i> Kütz.	- x -
f. <i>tenuirostris</i> Hust.	- x -	<i>N. riparia</i> Hust.	- x -
<i>N. hambergii</i> Hust.	- x -	<i>N. rotunda</i> Hust.	- x -
<i>N. hasta</i> Pant.	- x -	<i>N. salinarum</i> Grun.	- x -
<i>N. laevis</i> Kütz.*	x - -	<i>N. scabellum</i> Hust.	- - x
<i>N. lapidosa</i> Krasske	- x -	<i>N. schroeteri</i> Meister	- x -
<i>N. marginestriata</i> Hust.	- x -	<i>N. scutelloides</i> W. Smith ex Greg.	x x x
<i>N. mereschkowskii</i> O. Müll.		<i>N. seminuloides</i> Hust.*	x x x
var. <i>mereschkowskii</i>	x x -	<i>N. seminulum</i> Grun.	
f. <i>minor</i> O. Müll.	x - -	var. <i>hustedtii</i> Patrick	- x -
var. <i>recta</i> O. Müll.	x - -	<i>N. subcostulata</i> Hust.	- x -
<i>N. minima</i> Grun.*	- - x	<i>N. subrhynchocephala</i> Hust.	- x -
<i>N. minuscula</i> Grun.		<i>N. trivialis</i> L.-B.*	- x -
var. <i>muralis</i> (Grun.) L.-B.*	x x -	<i>N. tuscula</i> Ehr.	- x -
<i>N. miramaris</i> Frenguelli	- x -	<i>N. vanheurckii</i> Patrick*	- x -
<i>N. modica</i> Hust.	x x -	<i>N. vanmeelii</i> Kufferath	- x -
<i>N. monoculata</i> Hust.		<i>N. veneta</i> Kütz.*	- x -
var. <i>omissa</i> (Hust.) L.-B.	x x -	<i>N. ventralis</i> Krasske	- - x
<i>N. mutica</i> Kütz.		<i>N. viridula</i> (Kütz.) Ehr.	
f. <i>mutica</i>	x x x	var. <i>viridula</i>	- x x
f. <i>intermedia</i> Hust.	- x -	var. <i>linearis</i> Hust.	- x -
<i>N. muticoides</i> Hust.	- x -	var. <i>rostellata</i> (Kütz.) Cl.	x x -
<i>N. nivaloides</i> Bock	- x -	<i>N. zanonii</i> Hust.	x x x
<i>N. nyassensis</i> O. Müll.*		<i>Navicula</i> sp.	x x x
f. <i>nyassensis</i>	x x x		
f. <i>minor</i> O. Müll.	x - -	<b>Neidium</b> Pfitzer	
var. <i>capitata</i> O. Müll.	x - -	<i>N. affine</i> (Ehr.) Pfitzer*	
var. <i>elliptica</i> O. Müll.	x - -	var. <i>affine</i>	- x -
var. <i>longirostris</i> O. Müll.	x - -	var. <i>humerus</i> Reimer	- x -
<i>N. obesa</i> O. Müll.	x x -	<i>N. ampliatus</i> (Ehr.) Kram.*	x x -
<i>N. oblonga</i> (Kütz.) Kütz.	- x x	<i>N. dilatatum</i> (Ehr.) Cl.	
<i>N. paramutica</i> Bock	- x -	f. <i>dilatatum</i>	x x -
<i>N. perlatooides</i> (O. Müll.) Hust.*	x x -	forma	- x -
<i>N. perrotettii</i> Grun.	- - x	<i>N. dubium</i> (Ehr.) Cl.	x x -
<i>N. perminuta</i> Grun.*	- x -	<i>N. iridis</i> (Ehr.) Cl.*	- x -
<i>N. perparva</i> Hust.	- x -	<i>N. productum</i> (W. Smith) Cl.*	x x -
<i>N. placentula</i> (Ehr.) Kütz.	x x -	<i>N. tanganyikae</i> (G.S. West) Mills*	- x -
<i>N. platycephala</i> O. Müll.	x x x	<i>Neidium</i> sp.	- x -
<i>N. pseudolanceolata</i> L.-B.*	- x -		
<i>N. pupula</i> Kütz.*	x x x	<b>Nitzschia</b> Hass.**	
<i>N. pygmaea</i> Kütz.	- x -	<i>N. acicularis</i> (Kütz.) W. Smith	
<i>N. radiosa</i> Kütz.		var. <i>acicularis</i>	x x x
var. <i>radiosa</i>	x x x	f. <i>angustior</i> O. Müll.	x - -
var. <i>acuta</i> Grun.	x - -	var. <i>major</i> O. Müll.	x - x
var. <i>parva</i> Wallace	- - x	var. <i>closterioides</i> Grun.	- x -
<i>N. reinhardtii</i> Grun.	x x -	<i>N. adapta</i> Hust.	- x x
<i>N. rhynchocephala</i> Kütz.		<i>N. aequalis</i> Hust.	x x x
var. <i>rhynchocephala</i>	x x x		



<i>N. amphibia</i> Grun.*		<i>N. nana</i> Grun.*	- x -
var. <i>amphibia</i>	x x x	<i>N. nyassensis</i> O. Müll.	x x x
var. <i>pelagica</i> Hust.	- - x	<i>N. obligata</i> Archibald	- x -
<i>N. amphioxoides</i> Hust.	- x x	<i>N. obsoleta</i> Hust.	- x x
<i>N. angustata</i> (W. Smith) Grun.*	- x -	<i>N. obtusa</i> W. Smith	
<i>N. apiceconica</i> Kufferath	- x -	var. <i>obtusa</i>	- x -
<i>N. archibaldii</i> L.-B.	- x -	var. <i>schweinfurthii</i> Grun.	- x -
<i>N. asterionelloides</i> O. Müll.	x x -	<i>N. palea</i> (Kütz.) W. Smith*	
<i>N. bacillum</i> Hust.	x x -	var. <i>palea</i>	x x x
<i>N. calida</i> Grun.*	- x -	var. <i>debilis</i> (Kütz.) Grun.	x - x
<i>N. capitellata</i> Hust.*	- x -	var. <i>hustedtiana</i> Compère	- x -
<i>N. clausii</i> Hantzsch	- x -	var. <i>tenuirostris</i> L.-B.	x x -
<i>N. closterium</i> (Ehr.) W. Smith*	- x -	<i>N. paleacea</i> (Grun.) Grun.*	x x -
<i>N. communis</i> Rabh.	- x x	<i>N. pelagica</i> O. Müll.	x - -
<i>N. compressa</i> (Bailey) Boyer		<i>N. perminuta</i> (Grun.) M. Perag.*	- x -
var. <i>vexans</i> (Grun.) L.-B.	- x -	<i>N. profunda</i> Kufferath	- x -
<i>N. constricta</i> (Kütz.) Ralfs	- x -	<i>N. pseudosubrostrata</i> Kufferath	- x -
<i>N. dissipata</i> (Kütz.) Grun.		<i>N. recta</i> Hantzsch*	x x -
var. <i>dissipata</i>	- x -	<i>N. reversa</i> W. Smith	- x -
var. <i>media</i> (Hantzsch) Grun.	- x -	<i>N. sigma</i> (Kütz.) W. Smith	
<i>N. epiphytica</i> O. Müll.	x x x	var. <i>sigma</i>	- x -
<i>N. epiphyticoides</i> Hust.	x x x	var. <i>rigidula</i> (H. & M. Perag.)	
<i>N. falcata</i> O. Müll.	- x -	Grun.	- x -
<i>N. fonticola</i> Grun.*	x x x	<i>N. aff. sigmaformis</i> Hust.	- x -
<i>N. frauenfeldii</i> Grun.	x - -	<i>N. sigmoidea</i> (Nitzsch) W. Smith	x x -
<i>N. frustulum</i> (Kütz.) Grun.	x x x	<i>N. siliqua</i> Archibald	x x -
<i>N. fruticosa</i> Hust.*	- x x	<i>N. solita</i> Hust.	- x -
<i>N. gracilis</i> Hantzsch	x x x	<i>N. spiculoides</i> Hust.	- - x
<i>N. granulata</i> Grun.	- x -	<i>N. spiculum</i> Hust.	x x x
<i>N. goetzeana</i> O. Müll.		<i>N. subacicularis</i> Hust.*	- x x
var. <i>gracilior</i> Hust.	- - x	<i>N. subregula</i> Hust.	- x -
<i>N. inconspicua</i> Grun.*	- x -	<i>N. tarda</i> Hust.	- x -
<i>N. intermedia</i> Hantzsch		<i>N. tropica</i> Hust.	- x -
var. <i>intermedia</i>	x x -	<i>N. tubicola</i> Grun.	x x -
var. <i>robusta</i> (Hust.) Hust.	- x -	<i>N. umbonata</i> (Ehr.) L.-B.*	x x x
<i>N. intermissa</i> Hust.	- - x	<i>N. vitrea</i> Norman	x x -
<i>N. kapimbiense</i> Kufferath	- x -	<i>Nitzschia</i> sp.	x x -
<i>N. lacustris</i> Hust.	- x x		
<i>N. lancettula</i> O. Müll.	x x x	<b>Pinnularia</b> Ehr.	
<i>N. levidensis</i> (W. Smith) Grun.*		<i>P. acrosphaeria</i> Rabh.*	
var. <i>levidensis</i>	- x -	f. <i>acrosphaeria</i>	x x -
var. <i>victoriae</i> (Grun.) Chohn.*	x x -	f. <i>minor</i> Cl.	x - -
<i>N. liebetruthii</i> Rabh.	- x -	<i>P. amaniensis</i> Hust.	- x -
<i>N. linearis</i> W. Smith		<i>P. appendiculata</i> (Ag.) Cl.	- x -
var. <i>linearis</i>	x x x	<i>P. bogotensis</i> (Grun.) Cl.	- x -
var. <i>subtilis</i> (Grun.) Hust.	- x -	<i>P. borealis</i> Ehr.	
var. <i>tenuis</i> (W. Smith) Grun.	x x x	f. <i>borealis</i>	- x x
<i>N. littoralis</i> Grun.*	- x -	f. <i>rectangularis</i> Carlson	- x -
<i>N. microcephala</i> Grun.	- x x		

<i>P. brevicostata</i> Cl.	- x -	<i>Rhopalodia</i> sp.	x x -
<i>P. cardinalis</i> (Ehr.) W. Smith*	- - x		
<i>P. dactylus</i> Ehr.	- x -	<b>Stauroneis</b> Ehr.	
<i>P. divergens</i> W. Smith		<i>S. agrestis</i> Petersen	- x -
var. <i>elliptica</i> (Grun.) Cl.	- x -	<i>S. anceps</i> Ehr.*	x x x
<i>P. gibba</i> Ehr.*		<i>S. dahomensis</i> Hust.*	- x -
var. <i>gibba</i>	x x x	<i>S. manguinii</i> Guermuer	- x -
var. <i>linearis</i> Hust.	- x -	<i>S. obtusa</i> Lgst.	- x -
var. <i>sancta</i> Grun.	- x -	<i>S. phoenicenteron</i> (Nitzsch) Ehr.	
<i>P. hartleyana</i> Greville	- x -	var. <i>phoenicenteron</i>	x x x
<i>P. legumen</i> (Ehr.) Ehr.	- x -	var. <i>amphilepta</i> (Ehr.) Cl.	- x -
<i>P. mesolepta</i> (Ehr.) W. Smith*	x x -	<i>S. schinzii</i> Brun.	
<i>P. microstauron</i> (Ehr.) Cl.	- x x	var. <i>nyassensis</i> O. Müll.	x - -
<i>P. obscura</i> Krasske	x x -		
<i>P. scaettae</i> Zanon	- x -	<b>Surirella</b> Turp.**	
<i>P. stomatophora</i> (Grun.) Cl.	- x -	<i>S. aculeata</i> Hust.	- x -
<i>P. subcapitata</i> Greg.		<i>S. acuminata</i> Hust.	- x -
var. <i>subcapitata</i>	x x x	<i>S. angusta</i> Kütz.	- x -
var. <i>elongata</i> Kram.	- x -	<i>S. astridae</i> Hust.	- x -
var. <i>hilseana</i> (Janisch) O. Müll.	x - -	<i>S. bifrons</i> Ehr.	
var. <i>paucistriata</i> Grun.	x - -	var. <i>bifrons</i>	x x x
<i>P. tropica</i> Hust.	- x x	var. <i>intermedia</i> O. Müll.	x - x
<i>P. viridis</i> (Nitzsch) Ehr.*	x x x	var. <i>tumida</i> O. Müll.*	x - x
<i>Pinnularia</i> sp.	- x -	<i>S. biseriata</i> Bréb.	- x x
		<i>S. brebissonii</i> Kram. & L.-B.	- x -
<b>Pleurosigma</b> W. Smith		<i>S. brevicostata</i> O. Müll.*	
<i>P. normannii</i> Ralfs	x - -	var. <i>brevicostata</i>	x x x
		var. <i>constricta</i> Hust.	- x -
<b>Rhopalodia</b> O. Müll.**		var. <i>elongata</i> Hust.	- x -
<i>R. gibba</i> (Ehr.) O. Müll.*		<i>S. debesii</i> Hust.	- x -
var. <i>gibba</i>	x x x	<i>S. decipiens</i> Hust.	- x -
var. <i>parallela</i> (Grun.)		<i>S. effusa</i> Hust.	- x -
H. & M. Perag.*	x x -	<i>S. elegans</i> Ehr.	- x -
<i>R. gibberula</i> (Ehr.) O. Müll.*	x x x	<i>S. elegantula</i> Hust.	- x -
<i>R. gracilis</i> O. Müll.		<i>S. engleri</i> O. Müll.*	x x x
var. <i>gracilis</i>	x x x	<i>S. fasciculata</i> O. Müll.	- x -
var. <i>impressa</i> O. Müll.	x - -	<i>S. fuellebornii</i> O. Müll.*	
var. <i>impressa</i> f. <i>perlonga</i> O. Müll.	x - -	var. <i>fuellebornii</i>	x x x
var. <i>linearis</i> O. Müll.	x - -	var. <i>elliptica</i> O. Müll.	x x x
var. <i>orculaeformis</i> O. Müll.	x - -	var. <i>tumida</i> Hust.	- x -
var. <i>undulata</i> O. Müll.	x - -	var. <i>worthingtonii</i> Bachm.	x - x
<i>R. hirundiniformis</i> O. Müll.*		<i>S. gradifera</i> Hust.	- x -
var. <i>hirundiniformis</i>	x x x	<i>S. heidenii</i> Hust.	- x -
var. <i>turgida</i> Fricke	- x -	<i>S. lancettula</i> Hust.	- x -
<i>R. operculata</i> (Ag.) Håkansson	- x -	<i>S. latecostata</i> Hust.	- x -
<i>R. rhopala</i> (Ehr.) Hust.*	x x x	<i>S. linearis</i> W. Smith*	
<i>R. stuhlmannii</i> O. Müll.	x - x	var. <i>linearis</i>	x x x
<i>R. uncinata</i> O. Müll.	x - -	var. <i>elliptica</i> O. Müll.	x - -

<i>S. margaritacea</i> O. Müll.	x x x	<i>S. cf. spinifera</i> Hust.	- - x
<i>S. margaritifera</i> Hust.	- x -	<i>S. spiralis</i> Kütz.	x - -
<i>S. muelleri</i> Forti	x - -	<i>S. spiraloides</i> Hust.	- x -
[ <i>S. muelleri</i> Hust., non Forti]**	- x -	<i>S. splendida</i> (Ehr.) Kütz.*	x x x
<i>S. nervosa</i> (Schmidt) Mayer*	x x x	<i>S. striatula</i> Turp.	- x -
<i>S. nyassae</i> O. Müll.*		<i>S. striolata</i> Hust.	- x -
var. <i>nyassae</i>	x x x	<i>S. subcontorta</i> Hust.	- x -
var. <i>sagitta</i> O. Müll.	x - x	<i>S. subrobusta</i> Hust.	- x -
<i>S. obtusiuscula</i> G.S. West	- x -	<i>S. tenera</i> Greg.*	x x x
<i>S. ovalis</i> Bréb.	- x -	<i>S. terryi</i> Ward ex Terry	- x -
<i>S. plana</i> G.S. West	- x x	<i>S. turbo</i> O. Müll.	x - x
<i>S. reicheltii</i> Hust.	- x -	<i>S. vasta</i> Hust.	- x -
<i>S. sparsipunctata</i> Hust.*	- x -		



## List of synonyms

### with nomenclatural and taxonomic comments

The following synonyms are used in earlier publications on the algal flora of the three lakes.

## CYANOPHYTA

*Anabaena flos-aquae* var. *circularis* G.S. West = *Anabaenopsis circularis*

*Anabaenopsis elenkenii* Mill. f. *circularis* (G.S. West) Jeeji Bai = *Anabaenopsis circularis*

*Calothrix cartilaginea* G.S. West = *Homeothrix cartilaginea*

*Calothrix juliana* (Menegh.) Born. & Flah. = *Homeothrix juliana*

*Chroococcus dispersus* (Keissl.) Lemm. = *Chroococcus minor* f. *dispersus*

*Clathrocystis aeruginosa* (Kütz.) Henfrey = *Microcystis aeruginosa*

*Diplocystis incerta* (Lemm.) Daily = *Microcystis pulvereae* var. *incerta*

*Gloeocapsa limnetica* (Lemm.) Hollerb. = *Chroococcus limneticus*

*Gloeocapsa minor* (Kütz.) Hollerb. f. *dispersa* (Keissl.) Holl. = *Chroococcus minor* f. *dispersus*

*Gloeocapsa minuta* (Kütz.) Hollerb. = *Chroococcus minutus*

*Gloeocapsa turgida* (Kütz.) Hollerb. = *Chroococcus turgidus*

*Microcystis elabens* (Bréb.) Kütz. = *Aphanothece elabens*

*Microcystis flos-aquae* is often treated as a synonym or forma of *M. aeruginosa*

*Microcystis incerta* (Lemm.) Lemm. = *Microcystis pulvereae* var. *incerta*

*Microcystis stagnalis* var. *pulchra* Lemm. = *Microcystis pulvereae* f. *pulchra*

*Nostoc sphaerocarpa* Born. & Fl. = *Nodularia harveyana*

*Pilgeria brasiliensis* Schmidle, reported by THOMASSON (1956: 261) from Lake Victoria is a doubtful taxon, the type of which could belong to the Chlorophyceae, according to DROUET & DAILY (1956: 158).

*Plectonema tomasinianum* Gom. = *Plectonema mirabile*

*Pseudanabaena* sp. 1, cf. Komarek & Kling (1991: 29).

*Pseudanabaena* sp. 2, cf. Komarek & Kling (1991: 29).

*Romeria leopoliensis* (Racib.) Koczw. = *Synechococcus leopoliensis*

*Scytonema crispum* (Ag.) Born. = *Scytonema cincinnatum*

*Scytonema mirabile* (Dilw.) Born. = *Scytonema figuratum*

*Scytonema tenuissima* Kütz. = *Spirulina subsalsa*

## CHLOROPHYTA

### CHLOROCOCCALES

*Ankistrodesmus longissimus* (Lemm.) Wille = *Closteriopsis longissima*

*Ankistrodesmus falcatus* var. *acicularis* (A. Br.) G.S. West = *Monoraphidium griffithii*

*Ankistrodesmus falcatus* var. *mirabilis* West & West: unsufficiently known variety, sometimes treated as *Monoraphidium mirabile* (West & West) Pankow

*Ankistrodesmus falcatus* var. *setiformis* f. *brevis* Nyg. = *Koliella setiformis*

*Ankistrodesmus falcatus* var. *spirilliformis* G.S. West = *Monoraphidium contortum*

*Ankistrodesmus nitzschioides* G.S. West = *Schroederia nitzschioides*

*Ankistrodesmus setiger* (Schröd.) G.S. West = *Schroederia setigera*

*Cerasterias raphidioides* Reinsch = *Actinastrum raphidioides*

*Characium pringsheimii* A. Br. = *Characium ornithocephalum* var. *pringsheimii*

- Characium pyriforme* Lund. = *Characium pseudopyriforme*  
*Chodatella armata* Lemm. = *Franceia armata*  
*Chodatella cingula* (G.M. Smith) Fott = *Lagerheimia cingula*  
*Chodatella longiseta* Lemm. = *Lagerheimia longiseta*  
*Chodatella quadriseta* Lemm. = *Lagerheimia genevensis*  
*Chodatella subsalsa* Lemm. = *Lagerheimia subsalsa*  
*Chodatella subsalsa* var. *minor* = *Lagerheimia subsalsa* [var. *minor*]  
*Coelastrum cambricum* var. *nasutum* (Schmidle) G.S. West = *C. pulchrum* var. *nasutum*  
*Coelastrum cubicum* Näg. = *Coelastrum sphaericum*  
*Coelastrum pulchrum* var. *intermedium* Bohl. = *Coelastrum indicum*  
*Coelastrum pulchrum* Schmidle var. *nasutum* Schmidle: KOMAREK & FOTT (1983: 734) provisionally classify this variety as a synonym of *Coelastrum speciosum* (Wolle) Brunth. Further revision is necessary, however.  
*Crucigenia apiculata* (Lemm.) Schmidle = *Crucigeniella apiculata*  
*Crucigenia apiculata* (Lemm.) Schmidle var. *africana* Wolosz. = *Crucigeniella africana*  
*Crucigenia cuneiformis* (Schmidle) Brunth. = *Dispora cuneiformis*  
*Crucigenia heteracantha* Nordst. = *Tetrastrum heteracanthum*  
*Crucigenia irregularis* Wille = *Willea irregularis*  
*Crucigenia rectangularis* (Näg.) Gay = *Crucigeniella rectangularis*  
*Crucigenia schroederi* (Schmidle) Schmidle = *Tetrastrum staurogeniaeforme*  
*Crucigenia tetracantha* G.S. West = *Pediastrum simplex*  
*Dactylococcopsis africana* G.S. West = *Ankistrodesmus falcatus*  
*Dactylococcopsis raphidioides* Hansg. = *Stichococcus subtilis*  
*Desmatractum nyanzae* (Wolosz.) G.S. West : Syn. = *Peniococcus nyanzae* Wolosz. The generic status of this taxon is unclear, its position in the genus *Desmatractum* is questionable (KOMAREK & FOTT 1983: 262).  
*Dictyosphaerium primarium* Skuja = *Dictyosphaerium subsolitarum*  
*Dictyosphaerium reniforme* Bulnh. = *Dimorphococcus lunatus*  
*Gloeococcus schroeteri* (Chod.) Lemm. = *Sphaerocystis schroeteri*  
*Gloeocystis rehmani* Wolosz. = *Nephrocystium rehmanii*  
*Hofmania africana* Wolosz. : At the genus level, the name *Hofmania* has been replaced by *Komarekia* (Fott 1981) but the position of this species is unclear; it may belong to *Komarekia* or another genus (KOMAREK & FOTT 1983: 753).  
*Ineffigiata neglecta* West & West = *Botryococcus braunii*  
*Keratococcus suecicus* has been reported from L. Tanganyika and L. Victoria but was probably confused with *Schroederia setigera* (KOMAREK & FOTT 1983: 625).  
*Kirchneriella lunata* Schmidle : KOMAREK & FOTT (1983: 669) suggest that this name could be a synonym of *K. lunaris*; in this case, the correct name of the species should be *K. lunata*.  
*Lagerheimia subsalsa* = *Chodatella subsalsa* var. *citriformis*. This variety was probably described from old, somewhat deformed cells of the typical variety (KOMAREK & FOTT 1983: 472). Further revision needed.  
*Lagerheimia subsalsa* [var. *minor*] : Described as *Chodatella subsalsa* var. *minor*. Revision is needed to confirm taxonomic status before new combination can be made.  
*Monoraphidium setiforme* (Nyg.) Kom.-Legn. = *Monoraphidium komarkovae*  
*Pediastrum areanosum* (Racib.) Racib. and var. *rugulosum* (G.S. West) G.M. Smith = *Pediastrum angulosum*  
*Pediastrum bidentulum* A. Br. = *Pediastrum boryanum*

- Pediastrum boryanum* var. *brevicorne* f. *granulatum* (Racib.) Parra = *Pediastrum boryanum* var. *longicome*
- Pediastrum boryanum* var. *rugulosum* G.S. West = *Pediastrum boryanum*
- Pediastrum boryanum* var. *undulatum* Wille = *Pediastrum boryanum*
- Pediastrum clathratum* (Schröt.) Lemm. : The typical variety, the var. *microporum* Lemm. and the formae *majus*, *ovatum*, *radians* and *asperum* are synonyms of *P. simplex* Meyen var. *simplex*.
- Pediastrum clathratum* var. *mirabile* Wolosz. could be a good variety of *P. simplex* (KOMAREK & FOTT 1983: 280); treated as synonym of *P. simplex* var. *simplex* by PARRA (1979: 112).
- Pediastrum duplex* Meyen var. *cohaerens* Bohl. : This variety needs further revision, it is possibly identical with *P. argentinense* Bourr. & Tell (KOMAREK & FOTT 1983: 300).
- Pediastrum duplex* Meyen var. *rectangulare* Bohl. = *Pediastrum argentinense*
- Pediastrum duplex* var. *clathratum* A. Br. = *P. duplex* var. *duplex*
- Pediastrum duplex* var. *gracillimum* West & West = *P. duplex* var. *duplex*
- Pediastrum duplex* var. *inflatum* Wolosz. = *P. duplex* var. *duplex*
- Pediastrum duplex* var. *reticulatum* Lagerh. = *P. duplex* var. *duplex*
- Pediastrum gracillimum* (West & West) Thunm. = *P. duplex* var. *duplex*
- Pediastrum simplex* Meyen var. *annulatum* Chod. : Taxonomic status needs revision (KOMAREK & FOTT 1983: 290); treated as synonym of *P. simplex* var. *simplex* by PARRA (1979: 111).
- Pediastrum simplex* var. *clathratum* = *Pediastrum simplex* var. *simplex*.
- Pediastrum simplex* Meyen var. *duodenarium* (Bail.) Rabh. : This variety may be identical to var. *biwaense* Fukush. Further revision is needed (KOMAREK & FOTT 1983: 290); treated as synonym of *P. simplex* var. *simplex* by PARRA (1979: 11).
- Pediastrum simplex* Meyen var. *radians* Lemm. : Taxonomic status needs revision (KOMAREK & FOTT 1983: 290); treated as synonym of *P. simplex* var. *simplex* by PARRA (1979: 112).
- Pediastrum simplex* Meyen var. *radians* Lemm. f. *contortum* Wolosz. : treated as a synonym of *P. simplex* var. *simplex* by PARRA (1979: 112).
- Pediastrum sturmii* Reinsch = *Pediastrum simplex* var. *sturmii*
- Pediastrum tetras* (Ehr.) Ralfs var. *perforatum* Wolosz. : Taxonomic status requires revision (KOMAREK & FOTT 1983: 303); treated as synonym of *P. tetras* by PARRA (1979: 116).
- Pediastrum triangulum* (Ehr.) A. Br. var. *angustum* Nitardy = *Pediastrum simplex* var. *simplex*.
- Pediastrum triangulum* var. *latum* Nitardy = *Pediastrum simplex* var. *simplex*
- Pediastrum muticum* Kütz. = *Pediastrum boryanum* var. *brevicorne*
- Pediastrum westii* Wolosz. : probably a variety of *P. boryanum* (Turp.) Menegh. (KOMAREK & FOTT 1983: 298).
- Polyedrium trigonum* (Näg.) Hansg. var. *tetragonum* (Näg.) Rabh. = *Tetraedron tetragonum*
- Rhaphidium braunii* Næg. var. *lacustris* Chod. = *Quadrigula lacustris*
- Raphidium planctonicum* Wolosz. = *Elakotothrix gelatinosa*; according to HINDÄK (1962: 287) *R. planctonicum* is unsufficiently described and could as well be a synonym of *E. genevensis* (Reverd.) Hindäk.
- Richteriella botryoides* (Schmidle) Lemm. f. *quadriseta* (Lemm.) Chod. = *Micractinium quadrisetum*
- Scenedesmus acutiformis* var. *brasiliensis* (Bohl.) West & West = *Scenedesmus brasiliensis*
- Scenedesmus bijugatus* Kütz. = *Scenedesmus obliquus*
- Scenedesmus bijugatus* Kütz. var. *alternans* (Reinsch) Hansg. = *Scenedesmus alternans*

- Scenedesmus bijugatus* Kütz. f. *arcuatus* (Lemm.) West & West = *Scenedesmus obtusus*  
*Scenedesmus curvatus* Bohl. = *Raysiella curvata*  
*Scenedesmus curvatus* Bohl. var. *linearis* = *Raysiella curvata*  
*Scenedesmus denticulatus* var. *linearis* Hansg. = *Scenedesmus aculeolatus*  
*Scenedesmus ecornis* var. *disciformis* Chod. = *Scenedesmus disciformis*  
*Scenedesmus falcatus* Chod. = *Scenedesmus acuminatus*  
*Scenedesmus hystrix* f. Wolosz. = *Scenedesmus woloszynskae*  
*Scenedesmus longus* Meyen var. *maximus* West & West = *Scenedesmus magnus*  
*Scenedesmus magnus* Meyen [var. *arcuatus* Vir.] : Taxonomic revision is needed before a new combination can be made.  
*Scenedesmus maximus* (West & West) Chod. = *Scenedesmus magnus*  
*Scenedesmus maximus* (West & West) Chod. var. *arcuatus* Vir. = *Scenedesmus magnus*  
*Scenedesmus perforatus* var. *pologranulatus* Teil. = *Scenedesmus perforatus*  
*Scenedesmus platydiscus* (G.M. Smith) Chod. = *Scenedesmus arcuatus* var. *platydiscus*  
*Scenedesmus quadricauda* (Turp.) Bréb. : Since Chodat, this name is widely used for a taxon not agreeing with its original type; since a conservation proposal has been introduced (COMPÈRE & KOMAREK 1990) we shall follow current use, pending the recommendation of the nomenclature committees.  
*Scenedesmus quadricauda* var. *opoliensis* (Richt.) West & West = *Scenedesmus opoliensis*.  
*Selenastrum bibraianum* Reinsch = *Ankistrodesmus bibraianus*  
*Selenastrum gracile* Reinsch : *Ankistrodesmus gracilis*  
*Sorastrum spinulosum* var. *hathoris* (Cohn) Lemm. = *Sorastrum hathoris*  
*Sphaerocystis schroeteri* Chod. : syn. = *Gloeococcus schroeteri* (Chod.) Lemm. Confusion may arise with *Eutetramorus fottii* (Hind.) Kom. by some authors. The latter taxon forms autospores while *S. schroeteri* multiplies by zoospores.  
*Staurogenia cuneiformis* Schmidle = *Dispora cuneiformis*  
*Tetracoccus botryoides* W. West = *Westella botryoides*  
*Tetradesmus ostenfeldii* (Wolosz.) G.S. West = *Tetradesmus wisconsinensis* f. *ostenfeldii*  
*Tetraedron* : According to KOMAREK & FOTT (1983), this genus includes true green algae, with a large central or parietal chloroplast provided with a pyrenoid, reproducing by autospores. Many of the species reported from the East African great lakes are questionable since the structure of the chloroplast and the reproduction are unsufficiently known: *T. arthrodesmiforme*, *T. inflatum*, *T. paradoxum*, *T. trigonum*, *T. victoriae* and the numerous varieties described by Woloszynska. *Tetraedron incus* (Teil.) G.M. Smith which reproduces by means of zoospores should be transferred to *Chlorotetraedron* (Fott & Komarek 1983: 130). *Tetraedron tetraedricum* (Näg.) West & West, based on *Polyedrium tetraedricum* Näg. could be a synonym of *Tetraedron regulare* Kütz. or of the Xanthophyceae *Tetraedriella gigas* (Pasch.) Dedus.  
*Tetraedron enorme* (Ralfs) Hansg. = *Pseudostaurastrum enorme*  
*Tetraedron hastatum* (Reinsch) Hansg. = *Pseudostaurastrum hastatum*  
*Tetraedron limneticum* Borge and var. *minimum* (A. Br.) Hansg. = *Pseudostaurastrum limneticum* and var. *minimum*  
*Tetraedron lobulatum* (Näg.) Hansg. = *Isthmochloron lobulatum*  
*Tetraedron tetraedricum* (Näg.) West & West : could be a *Tetraedriella*  
*Victoriella ostenfeldii* Wolosz. = *Tetradesmus wisconsinensis* f. *ostenfeldii*

## ULOTRICHALES

*Stichococcus subtilis* (Kütz.) Kerck. = *Klebsormidium subtile*



## OEDOGENIALES

*Oedogonium hirnii* var. *africanum* G.S. West = *Oedogonium patulum*

## DESMIDIALES

*Arthrodesmus controversus* West & West = *Staurodesmus convergens*

*Arthrodesmus incus* Bréb. = *Staurodesmus incus*

*Arthrodesmus incus* var. *ralfsii* (W. West) West & West = *Staurodesmus incus* var. *ralfsii*

*Arthrodesmus fuellebornii* Schmidle = *Staurodesmus brevispina* fac.2 *fuellebornii*

*Arthrodesmus fuellebornii* var. *longispina* Grönb. = *Staurodesmus subulatus* var. *subaequalis*

*Arthrodesmus triangularis* Lagerh. = *Staurodesmus triangularis*

*Arthrodesmus triangularis* var. *subtriangularis* (Borge) West & West = *Staurodesmus subtriangularis*

*Closterium cynthia* De Not. var. *jenneri* (Ralfs) Krieg. = *Closterium jenneri*

*Closterium moniliferum* var. *galiciense* (Gutw.) G.S. West = *Closterium moniliferum* var. *moniliferum*

*Closterium praelongum* Bréb. var. *crassius* Schmidle : This variety may only be an extreme form of the typical variety, and needs further study (RUZICKA 1977: 164).

*Closterium schroederi* Wolosz. = *Closterium kuetzingii* var. *laeve*

*Cosmarium australe* (Racib.) Lütkem. et formae = *Actinotaenium australe*

*Cosmarium aversum* West & West = *Cosmarium contractum* var. *aversum*

*Cosmarium contractum* var. *minutum* (Delp.) West & West = *Cosmarium minutum*

*Cosmarium didymocarpum* (Lund.) Lütkem. ex Grönb. = *Penium didymocarpum*

*Cosmarium globosum* Bulnh. = *Actinotaenium globosum*

*Cosmarium globosum* Bulnh. var. *wollei* West & West = *Actinotaenium wollei*

*Cosmarium homalodermum* Nordst. var. *minor* Schmidle = *Cosmarium hammeri* var. *schmidlei*

*Cosmarium lagenarioides* (Roy) Lütkem. = *Actinotaenium lagenarioides*

*Cosmarium lagenarioides* var. *sidneyense* Racib. = *Actinotaenium sidneyense*

*Cosmarium meneghinii* Bréb. ex Ralfs var. *concinnum* Rabh. = *Cosmarium meneghinii*

*Cosmarium meneghinii* var. *octangulare* (Wille) West & West = *Cosmarium impressulum*

*Cosmarium moniliforme* (Turp.) Ralfs f. *panduriforme* Heimerl = *Cosmarium moniliforme*

*Cosmarium muelleri* Schmidle = *Cosmarium galeritum* var. *muelleri*

*Cosmarium retusifforme* f. *abscissa* (Schmidle) Borge = *Cosmarium trilobulatum* var. *abscissum*

*Cosmarium subbinale* (Nordst.) Lagerh. var. *abyssinicum* Lagerh. and f. *minus* Schmidle = *Cosmarium nymannianum* var. *abyssinicum*

*Cosmarium symoensii* Van Oye is probably only a form of *Actinotaenium cucurbita*.

*Cylindrocystis subpyramidata* West & West = *Cosmarium subpyramidatum*, which is probably a species of *Actinotaenium*.

*Euastrum binale* var. *subelobatum* (W. West) West & West = *Euastrum elobatum*

*Euastrum evolutum* (Nordst.) West & West = *Euastrum glaziovii* var. *evolutum*

*Euastrum pseudopectinatum* var. *evolutum* Schmidle = *Euastrum truncatiforme*

*Euastrum rostratum* Ralfs : according to Ruzicka, this unsufficiently decribed species could be synonym with *Euastrum bidentatum* Näg.

*Euastrum spinulosum* f. *duplo-minor* West & West = *Euastrum spinulosum* var. *spinulosum*

*Micrasterias cunningtonii* G.S. West : This species is related to *Micrasterias apiculata* (Ehr.) Menegh. ex Ralfs var. *lacerata* Turm. and needs further revision (RUZICKA 1981: 647).

- Micrasterias incisa* (Kütz.) Bréb. in Ralfs f. *typica* Turn. : *Micrasterias zeylanica*  
*Penium australe* Racib. = *Actinotaenium australe*  
*Penium navicula* Bréb. = *Closterium navicula*  
*Pleurotaenium caldense* Nordst. f. *africanum* G.S. West = *Pleurotaenium eugeneum* var. *africanum*  
*Pleurotaenium cristatum* Turn. f. *africanum* Schmidle = *Pleurotaenium subcoronulatum* var. *africanum*  
*Pleurotaenium elatum* var. *conjunctum* (Turn.) West & West = *Pleurotaenium caldense*  
*Sphaerosoma papillosum* (West & West) Schmidle = *Spondylosium papillosum*  
*Staurastrum brevispina* Bréb. ex Ralfs = *Staurodesmus brevispina*  
*Staurastrum brevispina* var. *inermis* Wille = *Staurodesmus brevispina*  
*Staurastrum corniculatum* Lund. var. *spinigerum* W. West f. *latum* Grönb. = *Staurodesmus corniculatus*  
*Staurastrum cuspidatum* (Bréb.) Ralfs = *Staurodesmus cuspidatus*  
*Staurastrum dejectum* (Bréb.) Ralfs = *Staurodesmus dejectus*  
*Staurastrum dickiei* Ralfs = *Staurodesmus dickiei*  
*Staurastrum dickiei* var. *circularis* Turn. = *Staurodesmus dickiei* var. *circularis*  
*Staurastrum dickiei* var. *circularis* Turn. f. *majus* Turn. = *Staurodesmus dickiei* var. *circularis*  
*Staurastrum disputatum* var. *sinense* (Lütkeim.) West & West = *Staurastrum sinense*  
*Staurastrum jaculiferum* W. West = *Staurodesmus jaculiferus*  
*Staurastrum jaculiferum* var. *excavatum* West & West, originally described from Scotland is considered very dubious by TEILING (1967: 563).  
*Staurastrum paradoxum* was treated by BROOK (1959) as *Staurastrum anatinum* f. *paradoxum* but this is in conflict with the rules of botanical nomenclature.  
*Staurastrum pilosum* (Bréb. non Näg.) Arch. = *Staurastrum brebissonii*  
*Staurastrum tohopekaligense* f. *quadrangulare* G.S. West : an illegitimate later homonym of *S. tohopekaligense* var. *quadrangulare* West & West, based on a different type  
*Staurodesmus convergens* f. *minor* (Grönb.) Thom. = *Staurodesmus convergens* var. *laportei*  
*Staurodesmus cuspidatus* (Bréb.) Teil. f. *tricuspidatus* (Bréb.) Teil. = *Staurodesmus cuspidatus*  
*Staurodesmus glaber* Ehr. f. *limnophilus* Teil. = *Staurodesmus glaber* var. *limnophilus*  
*Sphaerosoma excavatum* Ralfs = *Teilingia excavata*

## ZYGNEMATALES

- Spirogyra decimina* (O.F. Müll.) Kütz. f. *tropica* G.S. West = *Spirogyra columbiana*

## CHARALES

- Chara brachypus* A. Br. = *Chara setosa*  
*Chara brachypus* var. *tanganyikae* R.D. W. = *Chara setosa* f. *tanganyikae*  
*Chara gymnophylla* A. Br. = *Chara vulgaris* f. *gymnophylla*  
*Nitella furcata* (Roxb. ex Bruz.) Ag. f. *mucronata* (A. Br.) R.D. W. = *Nitella mucronata*

## EUGLENOPHYTA

- Euglena charkowiensis* Swir. = *Euglena oxyuris* f. *charkowiensis*  
*Strombomonas verrucosa* (Dad.) Defl. var. *conspersa* (Pasch.) Defl. and var. *zmiewika* (Swir.) Defl. = *Strombomonas acuminata*

## DINOPHYTA

*Ceratium hirundinella* (O. Müll.) Dujard. var. *brachyceros* (Dad.) Ostenf. = *Ceratium brachyceros*

*Ceratium macroceras* Schrank = *Ceratium hirundinella*

*Glenodinium penardii* Lemm. = *Peridiniopsis penardii*

*Gymnodinium albulum* Lind. = *Gymnodinium lantzchii*

*Gymnodinium profundum* Schill. = *Gymnodinium lacustre*

*Gymnodinium mirabile* Penn. = *Gymnodinium uberrimum*

*Gymnodinium rotundatum* Klebs = *Gymnodinium uberrimum*

*Peridinium apiculatum* (G.S. West) Lind. = *Peridinium palatinum*

*Peridinium berolinense* Lemm. = *Peridiniopsis berolinense*

*Peridinium berolinense* Lemm. var. *apiculata* Lemm. = *Peridiniopsis berolinense*

*Peridinium cunningtonii* (Lemm.) Lemm. = *Peridiniopsis cunningtonii*

*Peridinium inconspicuum* Lemm. = remarks for *Peridinium umbonatum*

*Peridinium pusillum* (Pen.) Lemm. = remarks for *Peridinium umbonatum*

*Peridinium umbonatum* Stein : POPOVSKY & PFIESTER (1990: 183) used a very broad concept of this species, including *P. inconspicuum* and *P. pusillum*. In view of the limited knowledge of the morphological variability of this group and the lack of profound studies of African populations of this species complex, we prefer to keep these three taxa separate at this stage.

*Peridinium volzii* Lemm. : POPOVSKY & PFIESTER (1990: 165) considered this species as a synonym of *P. willei* Huitf.-Klass. Although there are clear relationships between these two species, we consider the knowledge of their morphological variability and ecological characteristics as too limited to combine them into one taxon.

*Peridinium westii* Lemm. : POPOVSKY & PFIESTER (1990: 168) included this species in *P. cinctum* Ehr., but as in the case of *P. volzii*, we prefer to keep them separate at this stage.

*Sphaerodinium cinctum* (Ehr.) Wolosz. var. *polonicum* (Wolosz.) Hub.-Pest. = *Sphaerodinium cinctum*

## CHRYSTOPHYTA

*Heterochromonas* sp. = *Spumella* sp.

## BACILLARIOPHYTA

*Achnanthes saxonica* Krasske = *Achnanthes oblongella*

*Achnanthidium brevipes* Ag. var. *intermedium* Kütz. = *Achnanthes brevipes* var. *intermedia*

*Achnanthidium inflatum* Kütz. = *Achnanthes inflata*

*Achnanthidium lanceolatum* Bréb. = *Achnanthes lanceolata*

*Achnanthidium lanceolatum* var. *haynaldii* Istv.-Schaarsch. = *Achnanthes lanceolata* var. *haynaldii*

*Amphora copulata* : Observations on material from Lake Tanganyika by one of us (C.C.) displayed a great variability in this taxon. Future thorough study, requiring cultures, is necessary to know whether this is either a valid species or a complex of different taxa.

*Amphora lybica* Ehr. = *Amphora copulata*

*Amphora ovalis* (Kütz.) Kütz. var. *affinis* (Kütz.) V.H. = *Amphora copulata*

*Amphora ovalis* var. *lybica* (Ehr.) Cl. = *Amphora copulata*

*Amphora ovalis* var. *pediculus* (Kütz.) V.H. = *Amphora pediculus*

*Amphora perpusilla* Grun. = *Amphora pediculus*

*Anomoconeis serians* (Bréb.) Cl. = *Brachysira serians*

- Anomoeoneis sphaerophora* var. *biceps* Ehr. = *Anomoeoneis sphaerophora*  
*Anomoeoneis vitrea* (Grun.) Ross = *Brachysira microcephala*  
*Aulacoseira* : Most of the species and infraspecific taxa of this genus were originally treated as *Melosira*; when the combination has not yet validly been published in the genus *Aulacoseira* this is indicated in square brackets e.g. *Aulacoseira italica* (Ehr.) Sim. [var. *plicatella* O. Müll.]; the taxon was described as *Melosira italica* var. *plicatella* O. Müll.; it belongs to the genus *Aulacoseira*, and not to the genus *Melosira*, but research is to be done to see whether this taxon belongs to *A. italica*, to another taxon or deserves recognition.  
*Asterionella gracillima* (Hantzsch) Heib. = *Asterionella formosa*  
*Aulacoseira distans* (Ehr.) Sim. var. *africana* (O. Müll.) Sim. = *Aulacoseira pfaffiana*  
*Biddulphia aurita* (Lyngb.) Bréb. = *Odontella aurita*  
*Caloneis fasciata* (Lgst.) Cl. = *Caloneis bacillum*  
*Caloneis schumanniana* (Grun.) Cl. = *Caloneis limosa*  
*Caloneis silicula* (Ehr.) Cl. = *Caloneis ventricosa*  
*Caloneis silicula* var. *limosa* (Kütz.) VanLandingham = *Caloneis ventricosa* var. *truncatula*  
*Capartogramma jeanii* Kufferath = *Capartogramma karstenii*  
*Cocconema cistula* (Ehr.) W. Smith = *Cymbella cistula*  
*Cocconema cistula* var. *maculatum* (Kütz.) Grun. = *Cymbella cistula* var. *maculata*  
*Cocconema cymbiforme* Ehr. = *Cymbella cymbiformis*  
*Cocconema gracile* (Rabh.) G.S. West = *Cymbella lunata*  
*Cocconeis hustedtii* Krasske = *Achnanthes rupestroides*  
*Cocconema grossestriatum* (Müll.) G.S. West var. *tanganyikae* G.S. West = *Cymbella grossestriata* var. *tanganyikae*  
*Cocconema laeve* Näg. = *Cymbella laevis*  
*Cocconema leptoceros* Ehr. = *Cymbella leptoceros*  
*Cocconema turgidum* (Greg.) G.S. West = *Cymbella elginensis*  
*Cyclotella comta* (Ehr.) Kütz. auct. non (Ehr.) Kütz. = *Cyclotella radiosa*  
*Cyclotella kuetzingiana* Thwaites = *Cyclotella krammeri*  
*Cyclotella meneghiniana* var. *rectangularis* Grun. = *Cyclotella meneghiniana*  
*Cyclotella meneghiniana* var. *rectangulata* (Bréb.) Grun. = *Cyclotella meneghiniana*  
*Cyclotella operculata* Kütz. = *Cyclotella distinguenda*  
*Cylindrotheca closterium* Reiman & Lewin = *Nitzschia closterium*  
*Cymatopleura elliptica* (Bréb.) W. Smith var. *rhomboides* Grun. = *Cymatopleura elliptica* var. *hibernica*  
*Cymatopleura librile* (Ehr.) Pantocsek = *Cymatopleura solea*  
*Cymatopleura librile* var. *apiculata* (W. Smith) Ralfs = *Cymatopleura solea* var. *apiculata*  
*Cymatopleura solea* var. *subconstricta* O. Müll. = *Cymatopleura subconstricta*  
*Cymatopleura solea* var. *subconstricta* O.Mül. f. *minor* O. Müll. = *Cymatopleura solea*  
*Cymbella gracilis* (Rabh.) Cl. = *Cymbella lunata*  
*Cymbella grossestriata* var. *obtusiuscula* O. Müll. = *Cymbella muelleri*  
*Cymbella heteropleura* Ehr. var. *minor* Cl. = *Cymbella subcuspidata*  
*Cymbella lanceolata* (Ehr.) Kirchner = *Cymbella cornuta*  
*Cymbella minuta* var. *silesiaca* (Bleich ex Rabh.) Reimer = *Cymbella silesiaca*  
*Cymbella rabenhorstii* Ross = *Cymbella lunata*  
*Cymbella* cf. *subalpina* Hust. non Meister = *Cymbella* cf. *mendosa*  
*Cymbella turgida* Greg. non Hassal = *Cymbella elginensis*  
*Cymbella ventricosa* Kütz. = *Cymbella minuta*  
*Diploneis oblongella* var. *ovalis* (Hilse) Ross = *Diploneis ovalis*

- Diploneis ovalis* var. *oblongella* (Näg.) Cl. = *Diploneis oblongella*  
*Epithemia argus* var. *amphicephala* Grun. = *Epithemia argus* var. *alpestris*  
*Epithemia clavata* Dickie = *Rhopalodia rhopala*  
*Epithemia gibba* Ehr. var. *ventricosa* V.H. = *Rhopalodia gibba*  
*Epithemia zebra* (Ehr.) Kütz. = *Epithemia adnata*  
*Epithemia zebra* var. *porcellus* Grun. = *Epithemia adnata* var. *porcellus*  
*Epithemia zebra* var. *proboscidea* (Kütz.) Grun. = *Epithemia adnata* var. *proboscidea*  
*Eunotia biceps* Ehr. = *Eunotia flexuosa*  
*Eunotia gracilis* (Ehr.) Rabh. = *Eunotia glacialis*  
*Eunotia lunaris* : This name is a later homonym of *E. lunaris* Bréb. ex Rabh.; according to KRAMMER & LANGE-BERTALOT (1991) the correct name should be *E. bilunaris* (Ehr.) Mills, but Mills did not actually publish this combination which should be validated by a complete reference to the basionym.  
*Eunotia polydentula* Brun var. *perpusilla* Grun. = *Eunotia microcephala*  
*Eunotia tridentula* Ehr. var. *perpusilla* Grun. = *Eunotia microcephala*  
*Fragilaria elliptica* Schumann = *Fragilaria pinnata*  
*Fragilaria exigua* (W. Smith) Lemm. = *Fragilaria construens* var. *exigua*  
*Fragilaria minutissima* Grun. = *Fragilaria pinnata*  
*Fragilaria mormonorum* Grun. = *Fragilaria lapponica*  
*Fragilaria mutabilis* (W. Smith) Grun. = *Fragilaria pinnata*  
*Fragilaria mutabilis* var. *intermedia* Grun. = *Fragilaria intermedia*  
*Fragilaria undata* Smith = *Fragilaria constricta*  
*Gomphocymbella brunii* (Fricke) O. Müll. = *Gomphocymbella beccarii*  
*Gomphonema acuminatum* var. *turris* (Ehr.) Cl. = *Gomphonema augur* var. *turris*  
*Gomphonema angustatum* var. *intermedia* Grun. = *Gomphonema parvulum*  
*Gomphonema apicetrapezon* Kufferath : The original illustration is so poor that it is almost useless (VANLANDINGHAM 1967-1979).  
*Gomphonema constrictum* Ehr. = *Gomphonema truncatum*  
*Gomphonema constrictum* var. *capitatum* (Ehr.) Grun. = *Gomphonema truncatum*  
*Gomphonema intricatum* Kütz. = *Gomphonema dichotomum*  
*Gomphonema intricatum* var. *pumilum* Grun. = *Gomphonema pumilum*  
*Gomphonema intricatum* var. *pusillum* Mayer = *Gomphonema pumilum* ?  
*Gomphonema intricatum* var. *vibrio* (Ehr.) V.H. = *Gomphonema vibrio*  
*Gomphonema gracile* var. *lanceolata* (Kütz.) Cl. = *Gomphonema gracile*  
*Gomphonema lanceolatum* Ehr. = *Gomphonema gracile*  
*Gomphonema naviculoides* W. Smith = *Gomphonema gracile* var. *naviculoides*  
*Gomphonema parvulum* var. *micropus* (Kütz.) Cl. = *Gomphonema parvulum*  
*Gomphonema subclavatum* (Grun.) Grun. = *Gomphonema clavatum*  
*Gyrosigma spenceri* var. *nodifera* (Grun.) Cl. = *Gyrosigma nodiferum*  
*Melosira agassizii* Ostenf. = *Aulacoseira agassizii*  
*Melosira ambigua* (Grun.) O. Müll. = *Aulacoseira ambigua*  
*Melosira argus* O. Müll. = *Aulacoseira argus*  
*Melosira crenulata* (Ehr.) Kütz. var. *tenuissima* Grun. = *Aulacoseira italica* var. *tenuissima*  
*Melosira distans* Ehr. var. *africana* O. Müll. : *Aulacoseira pfaffiana*  
*Melosira goetzeana* O. Müll. = *Aulacoseira goetzeana*  
*Melosira goetzeana* f. *tenuior* O. Müll. = *Aulacoseira goetzeana*  
*Melosira goetzeana* var. *tubulosa* O. Müll. = *Aulacoseira goetzeana*  
*Melosira granulata* (Ehr.) Ralfs = *Aulacoseira granulata*

- Melosira granulata* var. *angustissima* O. Müll. = *Aulacoseira granulata* var. *angustissima*  
*Melosira granulata* var. *muzzanensis* (Meister) Hust. = *Aulacoseira muzzanensis*  
*Melosira granulata* f. *procera* Grun. = *Aulacoseira granulata*  
*Melosira granulata* var. *jonenis* Grun. = *Aulacoseira granulata*  
*Melosira ikapoënsis* O. Müll. = *Aulacoseira ikapoënsis*  
*Melosira ikapoënsis* var. *minor* O. Müll. = *Aulacoseira ikapoënsis* var. *minor*  
*Melosira ikapoënsis* var. *procera* O. Müll. = *Aulacoseira ikapoënsis* var. *procera*  
*Melosira italica* (Ehr.) Kütz. = *Aulacoseira italica*  
*Melosira italica* var. *tenuissima* (Grun.) O. Müll. = *Aulacoseira italica* var. *tenuissima*  
*Melosira kondeensis* O. Müll. = *Aulacoseira kondeensis*  
*Melosira magnusii* O. Müll. = *Aulacoseira magnusii*  
*Melosira mbasiensis* O. Müll. = *Aulacoseira mbasiensis*  
*Melosira nyassensis* O. Müll. = *Aulacoseira nyassensis*  
*Melosira pyxis* O. Müll. = *Aulacoseira pyxis*  
*Melosira roeseana* Rabh. = *Orthoseira roeseana*  
*Melosira schroederi* Wolosz. = *Aulacoseira agassizii*  
*Melosira schroederi* var. *minor* Wolosz. = *Aulacoseira agassizii*  
*Melosira stricta* O. Müll. = *Aulacoseira goetzeana*  
*Microsiphona potamos* Weber = *Skeletonema potamos*  
*Navicula acrosphaeria* Bréb. = *Pinnularia acrosphaeria*  
*Navicula acrosphaeria* var. *sandvicensis* Dickie = *Pinnularia acrosphaeria*  
*Navicula anglica* Ralfs = *Navicula elginensis*  
*Navicula anglica* var. *subsalsa* Grun. = *Navicula elginensis*  
*Navicula bacilliformis* Grun. = *Navicula laevissima*  
*Navicula cardinalis* Ehr. : *Pinnularia cardinalis*  
*Navicula cryptocephala* var. *intermedia* Grun. = *Navicula capitatoradiata*  
*Navicula cryptocephala* var. *veneta* (Kütz.) Rabh. = *Navicula veneta*  
*Navicula cuspidata* var. *ambigua* (Ehr.) Cl. = *Navicula cuspidata*  
*Navicula dicephala* W. Smith = *Navicula elginensis*  
*Navicula dulcis* Patrick = *Navicula perminuta*  
*Navicula elliptica* Kütz. = *Diploneis elliptica*  
*Navicula exigua* var. *capitata* Patrick = *Navicula exigua*  
*Navicula exigua* var. *lanceolata* f. *stigmata* O. Müll. = *Navicula exigua* var. *lanceolata*  
*Navicula exiguiiformis* Hust. : *Navicula decussis*  
*Navicula exilis* Kütz. = *Navicula cryptocephala*  
*Navicula gastrum* f. *minuta* Guermeur = *Navicula gastrum*  
*Navicula gastrum* var. *exigua* (Grég.) Grun. = *Navicula exigua*  
*Navicula gastrum* var. *turgida* f. *stigmata* O. Müll. = *Navicula perlatoides*  
*Navicula gibba* Ehr. = *Rhopalodia gibba*  
*Navicula halophila* var. *subcapitata* Østrup = *Navicula halophila*  
*Navicula interrupta* W. Smith = *Pinnularia mesolepta*  
*Navicula lanceolata* sensu Hustedt = *Navicula pseudolanceolata*  
*Navicula lanceolata* sensu Lange-Bertalot = *Navicula avenacea*  
*Navicula lanceolata* sensu Kützing = *Navicula trivialis*  
*Navicula lanceolata* var. *cymbula* (Donkin) Cl. = *Navicula concentrica*  
*Navicula limosa* Kütz. var. *gibberula* (Kütz.) Grun. = *Caloneis ventricosa* var. *truncatula*  
*Navicula mesolepta* Ehr. = *Pinnularia mesolepta*  
*Navicula minima* var. *atomoides* (Grun.) Cl. = *Navicula minima*

- Navicula muralis* Grun. = *Navicula minuscula* var. *muralis*  
*Navicula mutica* var. *cohnii* (Hilse) Grun. = *Navicula cohnii*  
*Navicula mutica* var. *goeppertiana* (Bleisch) Grun. = *Navicula goeppertiana*  
*Navicula productum* W. Smith = *Neidium productum*  
*Navicula pseudobacillum* Grun. = *Navicula bacillum*  
*Navicula pupula* var. *capitata* Hust. = *Navicula pupula*  
*Navicula pupula* var. *elliptica* Hust. = *Navicula pupula*  
*Navicula pupula* var. *nyassensis* (O. Müll.) L.-B. = *Navicula nyassensis*  
*Navicula pupula* var. *rectangularis* (Greg.) Cl. & Grun. = *Navicula pupula*  
*Navicula radiosa* var. *tenella* (Bréb.) Grun. = *Navicula cryptotenella*  
*Navicula rhomboides* Ehr. = *Frustulia rhomboides*  
*Navicula rotacana* (Rabh.) Grun. = *Navicula vanheurekii*  
*Navicula salinarum* var. *intermedia* (Grun.) Cl. = *Navicula capitatoradiata*  
*Navicula seminuloides* var. *sumatrana* Hust. = *Navicula seminuloides*  
*Navicula serians* Bréb. ex Kütz. = *Brachysira serians*  
*Navicula simplex* Krasske = *Navicula halophila*  
*Navicula smithii* Bréb. ex W. Smith = *Diploneis smithii*  
*Navicula sphaerophora* Kütz. = *Anomoeoneis sphaerophora*  
*Navicula spirata* Hust. = *Navicula brevissima*  
*Navicula tanganyikae* G.S. West = *Neidium tanganyikae*  
*Navicula viridis* Kütz. = *Pinnularia viridis*  
*Navicula viridula* var. *avenacea* (Bréb. ex Grun.) V.H. = *Navicula avenacea*  
*Neidium affine* var. *longiceps* (Greg.) Cl. = *Neidium affine*  
*Neidium iridis* var. *ampliata* (Ehr.) Cl. = *Neidium ampliatum*  
*Neidium iridis* var. *amphigomphus* (Ehr.) Tempère & Perag. = *Neidium iridis*  
*Nitzschia* : Material from the three East African great lakes belonging to this genus requires extensive study; wrong identifications of some taxa are not excluded.  
*Nitzschia abbreviata* Hust. = *Nitzschia inconspicua*  
*Nitzschia accomodata* Hust. = *Nitzschia palea*  
*Nitzschia actinastroides* (Lemm.) Van Goor = *Nitzschia fruticosa*  
*Nitzschia amphibia* var. *acutiuscula* Grun. = *Nitzschia amphibia*  
*Nitzschia angustata* var. *acuta* Grun. = *Nitzschia angustata*  
*Nitzschia baccata* Hust. = *Nitzschia paleacea*  
*Nitzschia confinis* Hust. = *Nitzschia paleacea*  
*Nitzschia diserta* Hust. = *Nitzschia capitellata*  
*Nitzschia frustulum* (Kütz.) Grun. var. *perminuta* Grun. = *Nitzschia perminuta*  
*Nitzschia obtusa* W. Smith var. *scalpelliformis* Grun. f. *nana* Grun. = *Nitzschia nana*  
*Nitzschia palea* var. *fonticola* Grun. = *Nitzschia fonticola*  
*Nitzschia palea* var. *tenuirostris* Grun. = *Nitzschia capitellata*  
*Nitzschia perpusilla* Rabh. = *Nitzschia inconspicua*  
*Nitzschia rostellata* Hust. = *Nitzschia subacicularis*  
*Nitzschia subrostrata* Hust. = *Nitzschia subacicularis*  
*Nitzschia thermalis* (Ehr.) Auerswald = *Nitzschia umbonata*  
*Nitzschia tryblionella* Hantzsch var. *levidensis* (W. Smith) Grun. = *Nitzschia levidensis*  
*Nitzschia tryblionella* var. *littoralis* (Grun.) Grun. = *Nitzschia littoralis*  
*Nitzschia tryblionella* var. *victoriae* Grun. = *Nitzschia levidensis* var. *victoriae*  
*Nitzschia umbilicata* Hust. = *Nitzschia calida*  
*Nitzschia vitrea* var. *recta* Hantzsch = *Nitzschia recta*

- Pinnularia interrupta* W. Smith = *Pinnularia mesolepta*  
*Pinnularia interrupta* f. *biceps* (Greg.) Cl. = *Pinnularia mesolepta*  
*Pinnularia stauroptera* (Grun.) Rabh. = *Pinnularia gibba*  
*Pinnularia stauroptera* var. *interrupta* Cl. = *Pinnularia gibba*  
*Rhizosolenia africana* Wolosz. = *Rhizosolenia curviseta*  
*Rhoicosphenia curvata* (Kütz.) Grun. = *Rhoicosphenia abbreviata*  
*Rhopalodia* : The varieties of *R. gracilis* and *R. hirundiniformis* were not always easily distinguished from the type variety; many intermediary forms between the varieties were observed. Intensive studies, requiring cultures, may reduce the number of intraspecific taxa.  
*Rhopalodia ascoidea* O. Müll. = *Rhopalodia rhopala*  
*Rhopalodia asymmetrica* O. Müll. = *Rhopalodia rhopala*  
*Rhopalodia clavata* (Dickie) O. Müll. = *Rhopalodia rhopala*  
*Rhopalodia gibba* var. *ventricosa* (Kütz.) H. & M. Peragallo = *Rhopalodia gibba*  
*Rhopalodia gibberula* var. *sphaerula* (Ehr.) O. Müll. = *Rhopalodia gibberula*  
*Rhopalodia gibberula* var. *vanheurckii* O. Müll. = *Rhopalodia gibberula*  
*Rhopalodia hirundiniformis* O. Müll. var. *parva* O. Müll. = *Rhopalodia hirundiniformis*  
*Rhopalodia parallela* (Grun.) O. Müll. = *Rhopalodia gibba* var. *parallela*  
*Rhopalodia vermicularis* O. Müll. = *Rhopalodia rhopala*  
*Rhopalodia vermicularis* f. *perlonga* Fricke = *Rhopalodia rhopala*  
*Rhopalodia vermicularis* f. *recta* Rich. = *Rhopalodia rhopala*  
*Schizostauron crucicula* Grun. ex Cl. = *Capartogramma crucicula*  
*Schizostauron crucicula* f. *gracilior* O. Müll. = *Capartogramma crucicula*  
*Schizostauron karstenii* Zanon = *Capartogramma karstenii*  
*Stauroneis anceps* var. *linearis* Ehr. = *Stauroneis anceps*  
*Stauroneis karstenii* (O. Müll.) Hust. = *Capartogramma karstenii*  
*Stauroneis kriegei* Patrick = *Stauroneis dahomensis*  
*Stephanodiscus astraea* : This invalid name applies to a complex of different taxa, which have not been separated in the past. Now it is split into several species. Recent research on the complex in Lake Nyasa/Malawi (KLEE & CASPER 1992) has already yield the description of two new taxa (*S. muelleri* and *Cyclostephanos malawiensis*). Examination of Lake Tanganyika material belonging to this complex may well prove the occurrence of these two and probably other new species.  
*Stephanodiscus astraea* var. *minutula* (Kütz.) Grun. = *Stephanodiscus minutulus*  
*Stephanodiscus astraea* var. *spinulosus* Grun. = *Stephanodiscus astraea*  
*Stephanodiscus damasii* Hust. = *Cyclostephanos damasii*  
*Stephanodiscus hantzschii* f. *parvus* Cl. & Möller = *Stephanodiscus parvus*  
*Surirella* : The constriction of the valva margins seems to be a variable character, as has been proved by *Surirella engleri*. The variety *constricta* has now been included in *Surirella engleri*. Intensive studies, requiring cultures, may reduce the number of intraspecific taxa.  
*Surirella bifrons* var. *tumida* f. *minor* O. Müll. = *Surirella bifrons* var. *tumida*  
*Surirella constricta* (Ehr.) Ehr. var. *africana* O. Müll. = *Surirella muelleri* Hust. non Forti  
*Surirella constricta* var. *maxima* O. Müll. = *Surirella muelleri* Hust. non Forti  
*Surirella engleri* f. *subconstricta* O. Müll. = *Surirella engleri*  
*Surirella engleri* f. *sublaevis* O. Müll. = *Surirella engleri*  
*Surirella engleri* var. *angustior* O. Müll. = *Surirella engleri*  
*Surirella engleri* var. *constricta* O. Müll. = *Surirella engleri*  
*Surirella fuellebornii* var. *constricta* O. Müll. = *Surirella fuellebornii*  
*Surirella linearis* var. *constricta* Grun. = *Surirella linearis*



*Surirella malombae* O. Müll. = *Surirella nyassae*

*Surirella malombae* f. *acuta* O. Müll. = *Surirella nyassae*

*Surirella malombae* var. *tumida* Ostenf. = *Surirella nyassae*

*Surirella muelleri* Hust. (1922): This name is a later homonym of *S. muelleri* Forti (1910); more studies are needed to determine whether its recognition is needed; in this case it should be given a new name.

*Surirella nyassae* var. *engleri* (O. Müll.) Ostenf. = *Surirella engleri*

*Surirella nyassae* var. *malombae* (O. Müll.) Ostenf. = *Surirella nyassae*

*Surirella robusta* Ehr. var. *splendida* (Ehr.) V.H. = *Surirella splendida*

*Surirella rudis* Hust. = *Surirella terryi*

*Surirella sparsipunctata* var. *laevis* Hust. = *Surirella sparsipunctata*

*Surirella tanganicae* G.S. West = *Surirella brevicostata*

*Surirella tenera* var. *nervosa* Schmidt = *Surirella nervosa*

*Surirella tenera* var. *subcontracta* Hust. = *Surirella tenera*

*Synedra*: In view of the very different treatments of the genus in recent treatises (KRAMMER & LANGE-BERTALOT 1991, ROUND et al. 1990) we choose to follow the classical treatment of HUSTEDT (1931-1959).

*Synedra actinastroides* Lemm. = *Nitzschia fruticosa*

*Synedra acus* var. *delicatissima* (W. Smith) Grun. = *Synedra radians*

*Synedra acus* var. *radians* (Kütz.) Hust. = *Synedra radians*

*Synedra dorsiventralis* O. Müll. = *Synedra nyansae*

*Synedra dorsiventralis* f. *angustae* O. Müll. = *Synedra nyansae*

*Synedra dorsiventralis* f. *breviores* O. Müll. = *Synedra nyansae*

*Synedra dorsiventralis* var. *cymbelliformis* O. Müll. = *Synedra nyansae*

*Synedra fasciculata* (Ag.) Kütz. = *Synedra tabulata* var. *fasciculata*

*Synedra intermedia* Grun. = *Synedra tabulata* var. *parva*

*Synedra limnetica* Lemm. = *Synedra berolinensis*

*Synedra tenuissima* (Kütz.) Kütz. = *Synedra radians*

*Synedra ulna* var. *lanceolata* (Kütz.) Grun. = *Synedra ulna*

*Synedra ulna* var. *splendens* (Kütz.) V.H. = *Synedra ulna*

*Synedra ulna* var. *splendens* f. *strumosa* O. Müll. = *Synedra ulna*

*Synedra ulna* var. *vitrea* (Kütz.) Grun. = *Synedra ulna* var. *amphirhynchus*

*Synedra vaucheriae* Kütz. var. *capitellata* Grun. = *Fragilaria vaucheriae* var. *capitellata*

*Synedra victoriae* Wolosz. = *Synedra berolinensis*

*Tabellaria fenestrata* var. *intermedia* Grun. = *Tabellaria fenestrata*

*Vanheurckia rhomboides* (Ehr.) Bréb. = *Frustulia rhomboides*

*Vanheurckia rhomboides* var. *saxonica* (Rabh.) G.S. West = *Frustulia rhomboides* var. *saxonica*

*Vanheurckia vulgaris* (Thwaites) V.H. = *Frustulia vulgaris*



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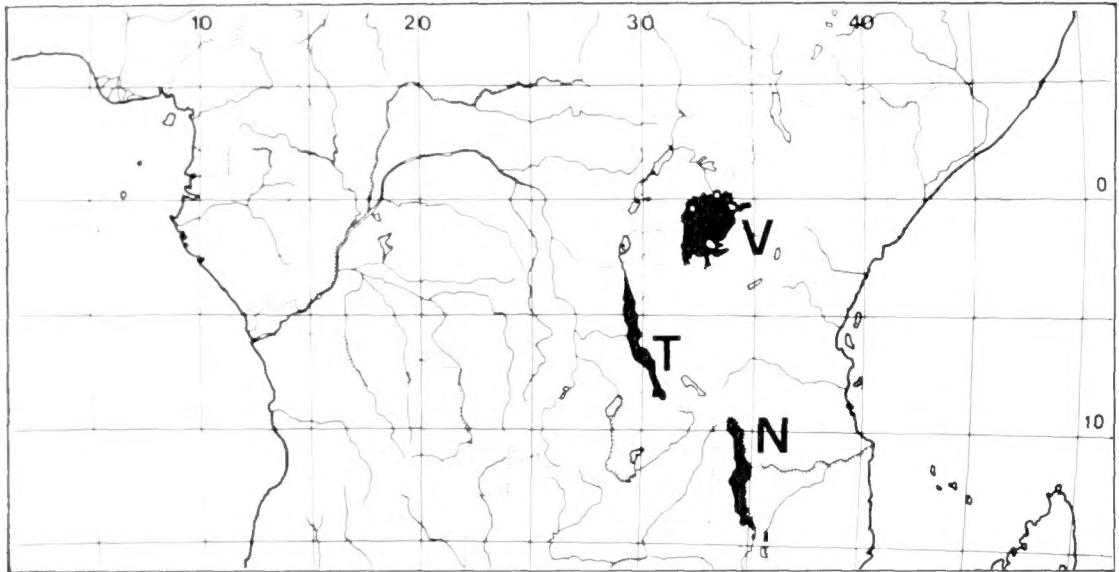
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## The East African Great Lakes

### Abbreviations used:

N : Lake Nyasa/Lake Malawi

T : Lake Tanganyika

V : Lake Victoria

\* : taxon cited from lake(s) under  
synonym(s); cf. list of synonyms p. 35

\*\* : cf. nomenclatural or taxonomic  
comment in list of synonyms p. 35

[ ] : used to indicate combinations  
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The present check-list of the algal flora of the East African great lakes summarizes knowledge on the biodiversity of the phytoplankton and -benthos of these large ecosystems. It will serve all future ecological and limnological research in these impressive parts of tropical Africa.

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